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Original Articles.

ALCOHOL AGAIN: A CONSIDERATION OF RECENT MISSTATEMENTS OF ITS PHYSIOLOGICAL ACTION.

BY JOSEPH W. WARREN, M.D.
Assistant in Physiology in the Medical School of Harvard University.

THE friends of temperance, falsely so-called, since total abstinence, and usually prohibition, are meant, are persistent distributers of printed matter, by which they hope to convince, or, at least, to influence their neighbors. Quite recently, such a tract on "Alcoholic Liquids as Therapeutic Agents" was extensively circulated in this vicinity, and doubtless in other places. Were it merely a pamphlet issued by the "Woman's Temperance Publication Association" of Chicago, and distributed hereabouts by the "Boston Women's Christian Temperance Union," any criticism might seem superfluous. But the tract is more than this: it is the reprint of a chapter of a medical work,[1] and, moreover, this chapter is said to have constituted a special lecture, "the closing lecture in the Practitioner's Course for 1884, and was given in compliance with a special request of the class in attendance." As a teacher's statement of the truth about alcohol, as the declaration of an older and prominent physician to younger men just entering the profession, this lecture may very properly attract our attention and criticism, since it is full of error and misstatement concerning the physiological action of alcohol, and the therapeutic inferences drawn therefrom are, to say the least, most doubtful.

It is for this reason that I venture to reopen the question, and to give a brief summary of the chief points of our knowledge of the physiological action of alcohol and alcoholic beverages. And I will say here, for the benefit of any multiscient reader, that while I hope to put together the best and the freshest of our knowledge, I have nothing absolutely *new* to give. While I shall endeavor to make due acknowledgment to the men whose labors have been chiefly valuable in establishing experimentally that portion of our knowledge which has such foundations, it would be as impracticable as it would be tiresome and unprofitable to name every experiment which has been made. Merely to give the enormous literature of the subject, would make a long article.

I. It is generally supposed that alcohol introduced into a sound stomach, in a not too concentrated form, is absorbed *unchanged*. The evidence that a portion is oxidized in the stomach or intestine is not strong; in any case, the amount thus altered must be exceedingly small. If the intestinal tract is affected by catarrhal or other disturbance, the absorption of dilute alcohol will be delayed or prevented, just as that of any liquid would be hindered. On this point, everybody is in substantial accord with the tract. Whether the absorption be altogether by the blood, is open to further investigation. The function of the leucocytes has been so much extended recently, that it would be hasty to deny them a share in the absorption of any substance that passes from the intestine into the body, and Dogiel claims to have demonstrated the presence of alcohol in the thoracic duct very soon after it has been taken into the stomach. The introduction of alcohol into the body appears to stimulate various glands, so that the flow of saliva is increased, and, apparently, that of the gastric juice as well. The immediate effect on any digestion which may be going on has been the subject of much experimental inquiry. The observations which have been made with artificial digestions have generally been unfavorable to any admixture of alcohol, certainly to any considerable one. The experiments of Ogáta[2] on a dog with a fistula also seemed to show that alcoholic beverages cause a delay in the digestive process. The very recent investigations of Gluzinski[3] shed light on the discrepancy hitherto existing between these experimental results and the clinical experience that a sluggish digestion is often favorably affected by a little alcohol. Gluzinski found that, while the presence of alcohol does retard the digestive process (as shown by examination of the substances which can be pumped out of the stomach), the alcohol is rapidly absorbed, and the digestion is then accelerated, on account of an increased secretion of gastric juice. This taking place all the more readily in an empty stomach, would explain the good effects of alcohol in this connection.

II. The alcohol which has been absorbed does not leave the body in any considerable quantity as alcohol, nor as the more immediate products of oxidation (aldehyde or acetic acid). This is, perhaps, the most important truth, and has been most exactly established. It is unfortunate that Dr. Davis has again denied it. He says, page 4 of the tract: "The experimental researches of Lallemand, Perrin, and Duroy proved conclusively that alcohol . . . was eliminated as alcohol, unchanged chemically, from the lungs, skin, and kidneys," and he adds cautiously, a few lines later, that these experiments have been confirmed, "except the claim that the amount eliminated is not equal to the whole quantity taken." Surely, no beginner would infer from the last quotation that *every* competent investigator had found the amount eliminated to be not only "not equal to the whole quantity taken," but really to form only a small fraction of it; yet such is actually the case. This misstatement is aggravated by being followed a little later by another, and perhaps worse one, concerning Anstie's conclusions on the question of elimination.

The researches of the French authors mentioned above[4] have acquired the distinction of serving as the chief weapon of the opponents of alcohol. Their apparent exactness has recommended them to many, and has rendered it difficult to give a complete and convincing demonstration of the falsity of the most important conclusion of the book: "*L'alcool est éliminé de l'organisme en totalité et en nature*" (p. 233). If the reader will take the trouble to examine the experiments on which this conclusion is based, he will be astonished at the weakness of the evidence. If he will also reckon out the amounts of alcohol which it was considered necessary to give to dogs in these investigations, and then state these amounts for a man of average weight, his astonishment will in no wise be diminished.[5] Now it may be very instructive

[1] "Reprinted from a new and very valuable work on 'Principles and Practice of Medicine,' by Prof. Nathan S. Davis. Published by A. C. McClurg & Co., Chicago. A large octavo volume of 900 pages."

[2] Ogáta. Ueber den Einfluss der Genussmittel auf die Magenverdauung. Arch. f. Hygiene, 1885, III. 204.

[3] Gluzinski. Ueber den Einfluss des Alkohols auf die Function des menschlichen Magens, sowohl im physiologischen wie im pathologischen Zustande. Disch. Archiv. f. klin. Med., 1886, xxxix., 405.

[4] Lallemand, Perrin, and Duroy. Du rôle de l'alcool et des anesthésiques dans l'organisme, Paris, 1860.

[5] It appears from the memoranda, on pages 47, 57, 63, and 66 of the above work, that an amount of alcohol equivalent to a whole bottle of brandy for an average man was a common dose for the dogs. In

to know just how much alcohol a dog can take and live — or die; to infer the physiological action from these amounts is dangerous; but, as we shall see presently, these investigators, in using such doses, have, in several instances, dug a pit for their own destruction.

When we recall how soluble alcohol is, and the ease with which it is absorbed, it need not seem strange that some should be excreted through the ordinary channels. It does not commonly surprise us that water is excreted, or salt, and we do not venture to build up enormous hypotheses on these facts. No one is ever restrained from using the iodide of potash because of the wonderful speed with which a portion is eliminated, and nowadays, the occasional presence of even a little albumin in the urine is looked upon with great complacency. We ought, then, to be very cautious in drawing hasty conclusions from the partial elimination of alcohol, which undoubtedly often takes place. The question which really concerns us is the amount of alcohol thus disposed of.

I ought to add, in passing, that the work of Subbotin[6] is sometimes quoted, as showing positively a considerable excretion. It has, however, been very properly urged that he only used rabbits in his experiments, and gave them enormous doses of alcohol, so that his results do not really demonstrate its physiological action.

The most careful and extended experiments to determine the amounts of alcohol which pass off through the lungs, the skin, and the kidneys are those undertaken in England by Anstie chiefly, or at his suggestion, and those made by Binz and his pupils in the Pharmacological Laboratory at Bonn. It is, however, worthy of notice, that the work of Lallemand, Perrin, and Duroy, which led to this long controversy, contains its own refutation in itself,[7] and was speedily objected to in its own country (Baudot). The methods for determining the excretion are not all as exact as is desirable. The simplest, (the iodoform test and the test by the reduction of chromic acid)[8] permit the establishment of an upper limit as to the amount of the excretion but do not give an exact quantitative determination. The inflammability or the odor of the products of distillation is obviously the most uncertain of tests as regards quantity. Much more exact would appear to be the determination with the vaporimeter which has been used more extensively at Bonn than in England.

It would require too much space to give the details of the English and German researches. To some extent they may be considered to supplement each other since the latter have developed the quantitative methods more fully, while the careful work of the former has established certain other points very completely, although more indefinitely as to quantity. Anstie[9] and his fellow-workers found that under the most varying conditions and with the use of all sorts of alcoholic beverages, the amount excreted, by dog or man, through all the channels already mentioned, was invariably small. Although Anstie's views are expressed with such perfect clearness in the publications just mentioned, that he who runs may read, Dr. N. S. Davis ventures to twist them as follows (Tract, p. 4); "The late Dr. Anstie, who followed up the investigation of this question with the most commendable perseverance, came to the conclusion that an average-sized adult in ordinary health, was capable of retaining about forty-five grammes (fl. ℥iss) of pure alcohol in the twenty-four hours, admitting that whenever more than this was taken in the time specified, it re-appeared in the evacuations, or was eliminated unchanged." But Anstie's "admission" consisted in the declaration that "the total amount eliminated, however, even in these cases, (that is, for more than ℥iss), was very small." For ℥iij-iv he could never find more than one or two grains in the urine.

Anstie's efforts were ably seconded by Dupré, who in a number of researches showed that the amount of alcohol excreted daily (and which he found to be altogether a minute fraction only of the amount taken), does not increase with the continuance of the alcohol diet, and he showed furthermore, (*contra* Parkes and Wollowicz) that this elimination is practically finished in twenty-four hours after the alcohol is taken.[10] Dupré's experiments have also a peculiar interest because he found that after abstaining from alcohol for ten days he still eliminated a substance through the kidney which when oxidised by chromic acid, yielded a volatile acid having the smell of acetic acid, and therefore simulating the excretion of alcohol as determined by this reaction. But the urine of a teetotaler who had but once in his life taken alcohol, and that two years previously, contained a similar substance at various times!

The work done in reference to this question at Bonn, has yielded quite a literature,[11] and its latest contribution[12] is the result of such careful experimentation under control of the vaporimeter as to leave no possible doubt concerning the amount of alcohol commonly excreted from the body, and I venture to remind the reader that it appeared some months before the delivery of the lecture forming the tract we are considering. I must refer the reader to Bodländer's article for the details of the experiments made on himself and on a

one experiment, the equivalent was as much as two and one-half bottles, and in another case, *three* bottles of brandy.

[6] Subbotin. Ueber die physiologische Bedeutung des Alkohols für den thierischen Organismus. Ztschr. für Biologie, 1871, vii., 381. See Dupré's severe, but just, criticism in the Practitioner, Vol IX, page 28.

[7] The amount recovered, for example, in the urine collected from several men for four hours after the consumption of three bottles of Burgundy and 120 grammes of Cognac, is by a most liberal calculation, less than 1 per cent., (probably not more than 0.4 per cent.) The amount obtained in the respiration experiments, so far as it can be calculated, does not seem to make a much better showing.

[8] Of these the iodoform reaction (which arises on heating dilute alcohol with a solution of iodine in the iodide of potassium decolorized with sodic hydrate) is especially untrustworthy, since carbohydrates, albumin, fibrin, etc., also form iodoform under similar conditions. Although this source of error was made known by Millon, as early as 1845, it was commonly overlooked by later investigators. It has also been found (Lieben) that perfectly normal dog urine contains substances which can be distilled off and give the iodoform reaction. Rajewsky (Pflüger's Archiv., xi. 129), observed that the distillation of perfectly fresh muscles (horse) or liver (horse or dog) or of the brain of a rabbit which had eaten nothing for two days, produced substances which gave this reaction, and, strangest of all, these tissues actually seemed to also contain very small amounts of alcohol. And the test with chromic acid or the bichromate of potash in sulphuric acid, although very delicate, is unfortunately not limited to alcohol. Aldehyde, acetic acid, and many other substances produce the same color change and may be mistaken for alcohol.

[9] The reader will find a sufficient account of this work in Anstie's Stimulants and Narcotics, 1864, and more especially in his "Final experiments on the elimination of alcohol from the body," in the Practitioner, 1874, xiii, 15. The latter article reviews the course of the English researches on the subject, and is particularly interesting because the author died about two months after its publication.

[10] Dupré, "On the Elimination of Alcohol." Proceedings of the Royal Society, 1871, xx, 268. The substance of this paper may also be found in articles in the Practitioner, viii, 148, 224.

[11] Its results are reported in several dissertations and in articles by Binz, who has also briefly collated it in Lectures xxix and xxx, of his recent "Vorlesungen über Pharmakologie." See also Binz, Die Ausscheidung des Weingeistes durch Nieren und Lungen. Arch. f. exp. Path. u. Pharm., vi, 287, and Heubach, Quantitative Bestimmung des Alkohols im Harn, in the same Archiv, viii, 446.

[12] G. Bodländer: Die Ausscheidung aufgenommenen Weingeistes aus dem Körper. Pflüger's Archiv für die ges. Physiologie, 1883, xxxii, 398.

dog. It took 50–100 cm. absolute alcohol diluted with water, equal to two-thirds to four-thirds of a bottle of claret. The dog received rather large doses, 10 to 30 cm. alcohol, or the equivalent of one and one-third to four bottles of claret for an average man. The amounts recovered may be tabulated as follows:

Excreted by	Dog. Experiments	Dog. Avge. Recov'd	Man. Experiments	Man. Avge. Recov'd	Remarks.
Kidneys	4	1.58%	12	1.18%	The chief excretion is during first hour, and is usually reduced to zero after three hours, provided the bladder has been fully emptied.
Skin	2	0	3	0.14	The excretion by the skin is practically over in four hours.
Lungs	3	1.95	3	1.60	The lung excretes alcohol much longer than the other organs, but the amount is small.
Intestines	....	....	1	0	Parkes' determination of alcohol in this connection, was made with faeces which had been preserved several days, so that many fermentative changes may have taken place.
		3.53%		2.92%	

The only other probable path of elimination would be the mammary gland, but experiments with this has led to negative results, and the stories about the intoxication of infants by means of the mother's milk are probably fables.[13]

Bodländer's results for the kidney excretion are in substantial agreement with those of Heubach [14] from the examination of the urine of various fever patients, who had received considerable doses of alcohol (18.0 to 325 ccm.) in different forms. The average output through the kidneys for 22 experiments was 1.12 per cent., or possibly 1.5 per cent., on account of errors in the method.

Even if we allow 10 per cent. for a possible error in the method of Bodländer (and the error of the vaporimeter is not greater than this) we shall find that less than 5 per cent. of the alcohol taken into the body is excreted by the ordinary channels during the entire time that delicate tests show the excretion to continue. In other words, it appears *that at least 95 per cent. of any reasonable amount of alcohol introduced into the animal body by the stomach, disappears, and is not found in the excretions, either as alcohol or as its more immediate oxidation products (aldehyde or acetic acid)*. This is result not merely of Bodländer's work but of Anstie's and of the experiments of many others. All experimental results of a contrary nature are either inexact in methed or have been arrived at by the use of quantities of alcohol so large as to be considered unreasonable.

III. The alcohol which is taken up into the body and not excreted disappears; it is transformed in some way not made out as yet, and *is not stored up as alcohol.*

[13] See Bodländer, op. cit., p. 425.

[14] See also Heubach, Ueber die Ausscheidung des Weingeistes durch den Harn bei Fiebernden. Inaug-Diss. Bonn, 1875.

This is evident from a number of considerations which have an experimental basis. In the first place, the determinations of Anstie and Dupré showed that the excretion does not increase when the alcohol diet is continued, as it might be expected to do if the alcohol remained in the body as alcohol. Should it be urged that this excretion is already the greatest possible, it would be well to consider an experiment made by Anstie [15] in 1873. He gave a small dog (9¾ pounds) one ounce of brandy (containing 198.9 grains of alcohol) daily for a number of days. The excretion on the tenth day was only 1.13 grains of alcohol. On the eleventh day, two hours after receiving half-an-ounce of brandy, the dog was killed, and very rapidly cut up into very small pieces, and every fragment of the animal was put into water for extraction. A few hours later this mixture was examined, and only twenty-four grains of alcohol could be recovered, or not more than one-fourth of the amount which had been taken but a couple of hours before. Remembering that the elimination of the previous day was only 1.13 grains, we must infer that the dog had used up some eleven ounces of alcohol with great completeness. This corroborates an earlier discovery made by Schulinus and Sulzynski, pupils of Buchheim.[16] In the course of some experiments showing that little alcohol is excreted, and that the blood contains, relatively, rather more than other tissues, it was found that fresh blood causes a portion of the alcohol which has been added to it to disappear. The loss seems to be, at least, ten per cent. This is in some way a "vital" phenomenon of the blood, for blood which has been carefully kept from eighteen to twenty-four hours disposes of much less alcohol, apparently less than one per cent. Lallemand, Perrin, and Duroy [17] held that the alcohol accumulated in the blood, but especially in the brain and liver. Their figures for the amount in the liver permit no convincing calculation of the proportion of the alcohol to be found in that organ. As to the brain and the blood, such statements as are so made as to permit a calculation, show that, although very large doses were given, not more than one per cent. of the alcohol was found in the brain (experiments with six dogs), and not more than eleven per cent. in the blood (experiments with two dogs). A still further incidental corroboration of the disappearance of alcohol I shall refer to later.

I do not see how the conclusion can be avoided that alcohol is disposed of as really and as truly as any food. In fact, if we could consider its behavior as thus far presented without any bias whatever, I doubt if any one would hesitate to call alcohol a food.

I venture to place here the almost pathetic words with which Anstie closed the report of his "Final Experiments," which were, unfortunately, to be really final for him:

"I therefore trust that we may consider one important portion of the alcohol question to be closed. It is certainly rather hard that the very inadequate researches of Lallemand, Duroy, and Perrin should have been allowed so long to mislead the majority of the profession and of the public upon the subject of the elimination of alcohol, being, as they were, mere qualitative experiments, and, even as such, devised and

[15] Anstie. Final experiments, etc.

[16] Schulinus. Untersuchungen über die Vertheilung des Weingeistes im thierischen Organismus. Arch. d. Heilkunde, 1866, vii., 97. See, also, Harnack's edition of Buchheim's Lehrbuch der Arzneimittellehre, 1883, p. 558.

[17] Du rôle de l'alcool, pp. 63, 82, 230, 233.

carried out with such an absence of all reasonable precaution against fallacy, as should have set physiologists on their guard at once. As it is, it has cost some fourteen years of almost unintermittent work to explode the errors which the French observers made current respecting a merely preliminary investigation into the action of alcohol. I appeal to the respectable members of the teetotal party, and I put it to their sense of honor not to continue to circulate the gross misstatements on this subject which, even now, are circulated broadcast in the tracts with which their society floods the country. It cannot do the temperance cause any good in the end; indeed, the discovery that they have been systematically misled on a point to which their informers could have no difficulty in ascertaining the truth, has already produced a strong revulsion in the minds of many persons against everything that bears the most distant relation to teetotalism."

Nearly another fourteen years have passed since these words were written, and yet the same misstatement continues.

IV. Various practical considerations have led physiologists, as well as pharmacologists, to examine the influence of alcohol, particularly on the body temperature, on the heart, and on the transformation and tissue changes in the body, which are now very commonly called its metabolism.

Historically, it seems to have been chiefly the favorable results obtained by the use of large doses of alcohol in the treatment of fevers, especially in England, and there particularly under the leadership of Todd, which directed attention to the question of temperature and eventually to the other points of inquiry. The well-known "warming" effect of alcoholic drinks which manifests itself at first in the epigastric region, "making glad the heart of man" seemed at variance with its favorable action on fevers. It was thought by theorists that alcohol ought to raise the temperature and so be harmful in fever, but careful investigation has shown that alcohol tends to lower the temperature of the body. Dr. Davis (page 3 of our tract) suggests that this knowledge is due to him, having been demonstrated in experiments which he made in 1850, and used in a paper[18] read before the American Medical Association in May, 1851. As there detailed his experiments prove nothing of the kind. He mentions *two* experiments made apparently with no control experiments whatever, and showing a fall of 0.5° F., which is attributed to the brandy taken. When we remember that these observations were made between nine and eleven o'clock at night, in other words, at a time when the temperature would naturally sink, we shall see how little credit is to be attached to them. Not only were Dr. Davis's observations quite inconclusive, but they are not even the earliest. A couple of years before, Duméril and Demarquay[19] had demonstrated that alcohol causes a very considerable lowering of the temperature. Their method was not altogether unobjectionable; the control experiments do not appear to have been sufficiently numerous, and the doses were very large. Still earlier Nasse,[20] had observed a fall of temperature in rabbits, but he laid no stress upon it.

Here, again, the Bonn pharmacological laboratory has been active in making the measurements required to clear up this question.[21] The fact is, that it is not always quite as easy to affect the temperature by alcohol as many who are but partially familiar with the subject commonly suppose. All careful investigators are agreed that alcohol taken into a healthy animal body never raises the temperature. As to the lowering, the following statement, condensed from Binz (Vorlesungen, page 360), gives the view which has a good claim to general acceptance: The temperature of healthy persons is not sensibly altered by small amounts of alcohol, which, however, may be large enough (particularly in a concentrated form) to produce a feeling of warmth in the stomach and later in the skin. Moderate amounts of alcohol, 30 to 80 grammes, (that is, two-fifths to one bottle of claret), may cause the temperature to fall 0.3° to 0.6° C. (0.5° to 1.1° F.)and this without the production of intoxication. This reduction of the temperature is also evident at the time of day when a rise would be naturally expected, (Daub), but the amount of the reduction is very much lessened by the habit of using alcohol. Narcotic doses, on the other hand, reduce the temperature several degrees and this continues for some hours. In other words, a glass of whiskey or a pint of beer has no appreciable effect on the body temperature; doubling the dose will perhaps cause the temperature to fall somewhat in those unaccustomed to the practice; complete intoxication (from alcohol) is accompanied by a great fall of temperature.[22]

The conclusions of Ringer and Rickards[23] and those arrived at by Parkes[24] are in substantial agreement

[18] An Experimental Inquiry concerning some points in the Vital Processes of Assimilation and Nutrition, Northwestern Medical and Surgical Journal, 1852, iv., 169.

[19] Duméril et Demarquay. Recherches expérimentales sur les modifications imprimées à la température animale par l'éther et par le chloroforme, et sur le mode d'action de ces deux agents. Arch. gén. de med. 1848, xvi., 334.

[20] Nasse. Ueber die Wirkung des Aderlasses auf die thierische Wärme. Med. Correspondenzblatt rhein. u. westf. Aerzte 1845, iv., 316.

[21] See: Binz, Sitzungsber d. Niederrh. Ges. 1869; Berl. kl. Wochenschr, 1869, 334.

Bouvier: Untersuchungen über die Wirkung des Alkohols auf die Körpertemperatur. Pflüger's Arch., 1869, III, 276.

——: Alkoholstudien. Ctbl. d. med. Wiss. 1871, 801.

Daub: Ueber d. Wirkung des Weingeistes auf d. Körpertemperatur. Arch. f. exp. Path. u. Pharm., 1875, III, 260.

The literature is very fully given in Binz's "Vorlesungen" including several dissertations which I omit.

[22] And this fall is all the greater when the drunkenness happens to coincide with exposure to cold. Several illustrations of this have become classic:

See: Magnan, Gaz. méd de Paris, 1870, 88: "Une femme ivre, qui était restée pendant plusieurs heures exposée à un froid très-vif, a présenté au rectum à l'aisselle une température de 26°, (78.8° F.) qui s'est élevée progressivement, de huit heures du matin à quartre heures du soir, jusqu' à 37°, température normale. La malade, du reste, est sortie guérie de l'hôpital."

Reincke, Beobachtungen über d. Körpertemperatur Betrunkener. Disch. Archiv. f. kl. Med., 1875, xvi, 12. These were cases brought in by the police. Temperatures from 30° to 35.4° C. (86° to 95.7° F.), were common. In some lethal cases it was still lower. His most extraordinary temperature (p. 15), was in a man who was found drunk shortly after midnight. He was transferred to the hospital in the morning with a rectal temperature at 8 o'clock of 24° C. (75.2° F.) There was gradual improvement during the day and at 7 o'clock the next morning the temperature was normal and he was discharged at noon.

Weckerling, same Arch., 1877, xix. 317. Rectal temperature of 35.4° C., (95.7° F.) in a child (three and three-quarters years), which had drunk a large quantity of "schnaps."

[23] Ringer and Rickards. Influence of Alcohol on the Temperature of Non-febrile and Febrile Persons. 1866. Proc. Roy. Med. and Chir. Soc., v. 209.

[24] See: Lond. Med. Rec., 11 Mch. 1874. Parkes' chief contributions which bear on this point are:

(1) Parkes and Wollowicz. Experiments on the Effect of Alcohol (Ethyl Alcohol) on the Human Body. Proc. Roy. Soc., 1870, xviii, 362. (No unquestionable reduction from 1-8 oz. of rectified spirits daily, or from 1-2 bottle of fine brandy in divided doses. A slight rise of 0.5° F., is complicated by the presence of a "febrile catarrh.")

(2) Parkes and Wollowicz. Experiments on the action of Red Bordeaux Wine (Claret) on the Human Body. Proc. Roy. Soc., 1871, xix, 73. (Practically no effect from 10, or from 20 oz. of good claret; certainly no rise of temperature.)

(3) Parkes. Further Experiments on the Effect of Alcohol and Exercise on the Elimination of Nitrogen and on the Pulse and Temperature of the Body. Proc. Roy. Soc., 1872, xx, 402. (No depression of temperature for three daily doses of brandy of 4 oz. each.)

(4) Parkes. On the Influence of Brandy on the Bodily Temperature, the Pulse, and the Respirations of Healthy Men. Proc. Roy.

with the views I have noted from Binz. Parkes seems to have found that the small reductions of the temperture are brought about by smaller doses, while the body is at rest and especially while fasting, than with food and exercise. In general, his men (soldiers) required rather large doses to affect the temperature, but they were all accustomed to alcohol. Or is it possible, as an eminent physiologist once suggested privately to me, that the temperature of the body has a somewhat different regulation in England from that on the Continent?

The reduction of fever temperatures by the use of alcohol has been equally fully demonstrated, and is generally admitted, so that alcohol is also considered by many that have seen this effect, to be a very important antipyretic. It would, however, lead much too far, were we to examine this aspect of the question, and I only wish to consider the physiology of the subject.

We come now to the consideration of an effect where the experimental evidence is in a very unsatisfactory condition — that on the heart. It is a fact often enough observed clinically that a weak heart can be quickened and strengthened by alcohol administered either hypodermically or through the intestinal tract. It is, however, somewhat uncertain whether we have to do here with a direct action on the heart or with a reflex stimulation.[25] On the other hand there is some evidence that such an effect is altogether problematical. Zimmerberg's dissertation (written at the suggestion of Schmiedeberg in 1869) is commonly given as authority for the statement, the stimulating influence on the heart does not exist. It has however, been urged the Zimmerberg's doses were toxic.[26]

Martin, too, in an article which I shall quote presently, seems to have found that a small dose of alcohol well diluted (15 cc. in 50 of water) does not quicken the heart-beat of a teetotaler.

The direct action of alcohol on the mammalian heart has only recently been studied, in fact the Baltimore method of isolating the dog's heart so as to permit such investigations is itself quite new. By ingeniously picking out what he wanted, Dr. Davis derives great comfort from the work of Martin and Stevens.[27] These investigators found that defibrinated blood fed directly to the heart (only the heart and lungs being in the circulation in this method of working) and containing 1-2 per cent. by volume of ethyl alcohol, invariably caused a very rapid and marked diminution in the work done by the heart in a given time as indicated by the amount of blood pumped out. With blood containing 1-4 per cent. alcohol the effect is in most cases the same, but sometimes little or none, and no influence is exerted by blood with but 1-8 per cent. at least for several minutes. This effect is due to a distension of the heart, the systole growing less and less complete. Martin calculates the amount of alcohol which would be 1-4 per cent. of the blood of an adult man and calls it about 15 ccm., or the equivalent of a good "glass" of brandy. Thus far Dr. Davis quotes him correctly in his lecture, but appears to have overlooked the following very important passage with which Martin's article in the *Maryland Medical Journal* ends (p. 294):

"We have made a few experiments to see what dose of alcohol given by the stomach to a dog will produce some similar action on the heart. When the heart lies in the body and in connection with the central nervous system there are of course considerable difficulties to be overcome, and all we can say as yet is that to get any distinct influence on blood-pressure one must put much more alcohol into the stomach than an amount equal to 1-4 per cent. of the total blood of the animal. It is either not absorbed fast enough to reach at any moment the heart-poisoning limit, or, more probably, is picked up by other organs, very likely the liver, and held back from the heart.

"We then tried in another way, by directly injecting into the jugular vein of a curarized dog, a small quantity of salt solution containing an amount of alcohol equal to 1-4 per cent. of the total blood of the animal reckoned as 1-13 of the weight. In such cases we found usually a very temporary enfeeblement of the heart, indicated by a lower arterial pressure, but this seems only to last while the injected solution is flowing through the organ, or for a few seconds afterwards. Before the blood returns it has apparently deposited its alcohol elsewhere in the body, or at any rate got rid of it somehow, so that it no longer acts immediately upon the heart, at least to a directly noticeable extent."

It will thus be seen that although the results of Martin and Stevens are probably true for alcoholized blood circulating through the heart, the body does not permit the heart to be reached ordinarily by any such amount of alcohol. The reader will see in this fresh evidence that the body disposes of the alcohol by some other process than excretion. This behavior of alcohol need not particularly astonish us, for we know now that various products of the digestive process ("peptones" or diffusible bodies standing near these), which in all probability are readily taken up from the intestine, cause much disturbance when injected directly into the blood. There is, however, some experimental evidence that alcohol really stimulates the heart and raises the blood-pressure.[28] The investigations of Parkes and Wollowicz, and those of Parkes alone, certainly show a considerable quickening of the

Soc., 1874, xxii, 172. (The Temperature of a man remaining quietly in bed was not especially changed by brandy (1 to 6), taken four hours after breakfast. During complete inanition (no food from 6 P. M., until 1 P. M., 6 ozs. of brandy being taken at 10 A. M.), the temperature was more distinctly lowered, but the average for the three hours is only 0.6° F.)

[25] Bleuler and Lehmann have recently shown (Archiv. f. Hygiene III. 215) that the pulse is readily quickened by all substances (hot water, salt solutions, etc.) which cause any feeling of burning, pressure or nausea in the stomach, or a fulness in the intestines, especially in the rectum.

[26] Zimmerberg, Untersuchungen über den Einfluss des Alcohols auf die Thätigkeit des Herzens. Dorpat, 1869. An examination of this dissertation certainly does show very large doses for frogs, rabbits, and cats, but it cannot be urged that those given the men were unduly large. The average pulse, as I figure it from the data printed, really shows less increase from alcohol than we should expect from clinical and other experience, and the blood-pressure (cats) is undoubtedly lowered in a way which does not agree with the results of other observers. The rabbits showed a very marked rise of the pulse-rate, and Zimmerberg endeavors to explain this by an experiment with the injection of water (into the stomach) which was also followed by increased heart activity. But the water effect only lasts forty minutes, while the alcohol quickening still continued at the end of the experiments, or some sixty-five minutes after taking the alcohol. Of all the animals used for this work the rabbit is the most likely to have had a considerable quantity of food in the stomach. It is, therefore, a plausible explanation that the slowness of the absorption and the continuance of a mild reflex stimulus may have raised the pulse, and it is also noticeable that the dogs, which apparently received more moderate doses do show some quickening of the pulse shortly after the alcohol was given.

[27] Martin. The direct action of ethyl alcohol upon the heart. From the Transactions of the Med. and Chir. Fac. of Maryland, 1883. In Maryland Medical Journal, September 8, 1883, p. 289. Experimental details of these experiments are given in the "Studies from the Biological Laboratory," of Johns Hopkins University, Vol. II, p. 477.

[28] See Dogiel in Pflüger's Archiv viii. 605, (unfortunately only a résumé) and the *Referat* on the (Strassburg) dissertation of Rioechiro Maki in the Centralblatt f. klin. Medicin, 1884, 685. The latter's experiments appear to have been made on the frog's heart with Williams' apparatus, and are in a measure opposed to the conclusions which Davis draws rather loosely, as usual, from the work of Ringer and Sainsbury. (Practitioner, 1883, xxx, p. 339.)

pulse in the soldiers they experimented on. This quickening seems to last too long to be merely the result of intestinal stimulation. Their sphygmograms will apparently bear the interpretation that the tension is increased, but all sphygmographic work is more or less enigmatical.

Here belong, too, the apparently careful experiments of Castillo,[29] who found (for rabbits and dogs) that small doses of alcohol accelerate the pulse by direct stimulation of the heart (the nerves being cut) with an increase of the cardiac force and a higher arterial pressure, while larger doses accelerate the pulse but diminish cardiac force and lower the arterial pressure. With an excessive dose the pulse-rate is diminished from the first; there is a direct paralysis of the heart, which always comes to a standstill in diastole. This shows, what is also generally admitted, that there is a period of the alcohol effect, often easily and rapidly reached (it being probably rather a question of quantity rather than of time), when the heart is weakened, the bloodvessels much relaxed and the blood-pressure greatly lowered. This is probably a nervous phenomenon and due to a paralysis of vasomotor centres, for Kobert found that bloodvessels showed no special change when alcoholized blood circulated through them.[30]

(To be continued.)

THE SURGERY OF THE ABDOMEN ILLUSTRATED BY EIGHT CASES.

BY D. W. CHEEVER, M.D.,
Professor of Surgery, Harvard Medical School; Visiting Surgeon, Boston City Hospital.

CASE I. PERICŒCAL ABSCESS.[1]

THE patient was a girl of ten years, who, though always delicate, had never up to the present illness, had any serious disease. For about six weeks before she was seen by me in consultation, she had suffered from abdominal pain with occasional vomiting, and feverishness. On examination there was found to be a solidification of a large part of the right lung which interfered seriously with respiration. Indistinct fluctuation was made out in the right iliac region and by aspiration at a point midway between the umbilicus and the crest of the ilium, about sixteen ounces of pus was drawn out. As at this time the child was much exhausted and the removal of the pus afforded relief, it was thought wiser to pause here. The abscess, however, refilled, and eighteen days after, the aspiration was laid open.

It was found necessary to make the abdominal incisions, one in the median line, and one at each side of it. A large quantity of foul pus was let out. The finger introduced through the median incision entered at once a large abscess cavity, extending across the abdomen from side to side, which must have held at least a pint and a half of pus. No connection with the viscera was detected, and the intestines were apparently walled off by inflammatory exudation. The cavity was washed out with carbolic solution, large drainage-tubes were inserted into the two lateral incisions and a braid of silk into the median one. Carbolized oil dressings were used. After the operation there were no signs of collapse, and the temperature fell rapidly to normal. The cavity was daily washed out with a solution of corrosive sublimate. The patient began to gain flesh and strength, and three weeks after the operation the middle sinus closed, the silk having been removed in the mean time.

Six weeks after the operation the sinus on the right side had closed permanently. That on the left nearly healed up, but began finally to discharge fæcal matter. Two months after the operation this fæcal fistula healed spontaneously.

The right lung did not entirely clear up, until about four months after the operation, at which time the child was well and strong.

The final formation of a fæcal fistula seemed to indicate some low or tubercular ulceration of the bowel. The original site of the abscess was near the cœcum and ascending colon. There was no stoppage of the bowels. Considering the feeble constitution of the child and the infarction of the right lung, together with the long duration of the illness, the recovery was a remarkable one. The spontaneous closure of the fæcal fistula was also remarkable, although this is often seen after hernia and strangulation.

CASE II. PERITYPHLETIC ABSCESS.

The patient was a Swede, twenty-three years old. He was undersized and poorly nourished. On account of the language it was impossible to obtain a complete history. So far as could be made out, however, the patient received a blow in the left groin about three months before he first came under my care, and for the last month or so pain had been present in the abdomen, gradually increasing in severity. This pain has been so constant and severe as to prevent sleep. The patient had lost flesh and strength and had little or no appetite. Micturition difficult and painful. The abdomen was enlarged symmetrically. The catheter drew off twenty ounces of clear urine, after which the right lower abdomen seemed somewhat more prominent than the left. The aspirating needle was inserted in the median line four inches below the umbilicus, but nothing was found. There was a fluctuating area on the left of median line, and the aspirating needle was again inserted, this time an inch below and to the left of the umbilicus. A few drops of pus were drawn out. With the needle as a guide an incision was made down to the peritoneum, but no pus was found. The finger introduced into the peritoneal cavity detected an induration below and to the right, which could be grasped between the finger of one hand within, and the other hand without. The needle was then introduced at a point two inches to the right, and three inches below the umbilicus, and considerable thick, foul pus evacuated. Using the needle as a director a free opening was made into the abscess cavity. The index finger introduced into this cavity, discovered three apparently blind pouches; one directed upwards and towards the first incision, a second passing outwards and towards the flank, and a third passing backwards. The abscess-cavity was irrigated with carbolic solution, and drainage-tubes were introduced. The first incision was carefully sutured, and sealed with the compound tincture of benzoin. A rectal examination was now made, and a fluctuating projection discovered on the

[1] This case occurred in the practice of Dr. G. E. Titcomb, of Concord, Mass.

[29] Castillo. The physiological action of alcohol on the circulation. Philadelphia Medical Times, 1880, xi, 44. This is an abstract of a prize inaugural essay, and unfortunately does not contain full details.

[30] Cf. Binz' Vorlesungen, p. 386. Kobert. Ueber die Beeinflussung der peripheren Gefässe durch pharmakologische Agentien. Arch. f. exp. Path. u. Pharm., 1886, xxii, 77.

anterior wall. It was apparently of about the size of an orange, and the tissues about it were indurated. Into this swelling a long curved trochar was introduced, and several ounces of very thick, extremely offensive pus were evacuated. The canula was tied in, but removed on the next day.

After the operation the patient steadily gained flesh and strength, the wounds healed rapidly, and indurated swellings in the abdomen and rectum gradually disappeared.

This was probably a case of perityphlitic abscess finally descending into the pelvis. The points of interest were the false start made by cutting down upon the needle, and the opening of the peritoneal cavity without subsequent infection.

CASE III. PYONEPHROSIS.

The patient was a woman, twenty-five years old. About two months previously she had been delivered of her first child, after a tedious labor, in which forceps were used. She had made a good recovery, and was up on the tenth day. By the end of the third week, she began to have pains in the abdomen and back, which gradually became more severe and more constant. The urine contained much sediment, mostly pus. On questioning, it was found out that the urine had been cloudy ever since the confinement. On examination of the abdomen, a tumor was found in the right lumbar region, which extended far back toward the spine, and under the false ribs. It reached, in front, to within one inch of the umbilicus. This tumor was dull on percussion, and was quite hard, though indistinct, deep-seated fluctuation could be made out. There was considerable tenderness.

An aspirating needle was introduced a little in front of the middle of the tumor, and fœtid pus was found. The needle was left in position, and an incision four inches long made from the lowest rib to the middle point of the iliac crest, in a direction downwards and slightly forwards. The anterior border of the quadratus lumborum muscle was seen running diagonally across the line of incision. The transversalis fascia was then divided, and the sac-wall disclosed. On tearing through the latter, six or eight ounces of very foul pus was let out, and the tumor disappeared. The peritoneum was not disturbed. The examining finger could make out a sinus, extending upwards toward the kidney. The cavity was irrigated with carbolic solution, and drainage-tubes inserted. They penetrated fully four inches.

After the operation the patient rallied, and soon began to gain in strength. The discharge from the tubes diminished gradually, but the sediment in the urine, though somewhat less than formerly, contained a large amount of pus. Sixteen days after the operation, a slight amount of urine escaped from the wound in the side. The cavity was, however, contracting, and the tube was introduced with difficulty. From this time on there was a gradual improvement in the condition of the patient, in spite of many set-backs. When she was last seen, some months after the operation, there was a small sinus, which discharged slightly from time to time. A round swelling, about the size of an orange, was still to be felt in the right side. The urine contained a faint trace of albumen and considerable sediment, mostly pus.

It was quite uncertain, in this case, whether the disease was puerperal or not. Life was saved by bold operative procedure, but the entire disease was not yet removed. To remove the suppurating kidney, was a question for future consideration. It seemed probable that this was a perinephritic abscess, opening early into the pelvis of the kidney.

CASE IV. PELVIC ABSCESS.

The patient was a single woman, thirty-one years old. She had never had any children. Was well up to within four years, at which time she had "inflammation of the bowels." She recovered from this illness, and was able to return to work. Within the last six months or so, she had suffered from a stopping of the catamenia, with pains in abdomen and back. The pain in the abdomen had been, for the last two weeks, severe enough to prevent sleep. The patient had been losing flesh and strength; constipation was present, as well as a frequent desire to micturate; urine cloudy when passed, and contained large amount of pus.

On palpating the abdomen, a large mass, painful on pressure, was found occupying the lower part of the abdomen, on the left side. It was apparently above the true pelvis. No fluctuation could be made out, and the aspirating needle, thrust into the most prominent part of the mass, failed to discover pus. A careful vaginal examination, with the sound in the bladder, gave no additional information as to the limits and position of the tumor. The urethra was then dilated, and the index finger introduced into the bladder. This viscus seemed to be attached high up, but no opening into it could be made out.

The bladder was washed out daily with antiseptic solutions, and the patient gained in strength, and the pain decreased, though the urine still contained a large amount of pus. Suddenly, pus began to be noticed in the stools, showing that an opening had been made into the rectum. Eventually, the patient made a perfect recovery.

The refraining, in this case, from opening the peritoneal cavity, when a vent for the abscess existed through the bladder, was rewarded by entire recovery through the outlets made by nature. It is a well-known fact that pelvic abscesses are much more likely to recover spontaneously than those wholly within the abdomen.

CASE V. INTESTINAL OBSTRUCTION FROM VOLVULUS; ABDOMINAL SECTION; ARTIFICIAL ANUS; DEATH.

(This case occurred at the City Hospital, in the practice of Dr. G. H. Lyman, who transferred it to me for operation.)

A well-developed young man of twenty-three years, who had, up to the present illness, always been well, was seized with abdominal pain and tenderness, particularly in the region of the umbilicus. There was persistent constipation and vomiting. The vomitus, at first thin and colorless, later became stercoraceous. Warm-water enemata, introduced through the rectal tube, failed to bring away more than a few small fæcal lumps.

The patient's condition growing gradually worse, and collapse threatening, he was transferred for operation.

An incision five inches long was made in the right linea semilunaris, downwards from the level of the umbilicus. The bowel was moderately distended and dark-colored. The cœcum could not be found. The hand, passed into the peritoneal cavity, failed to detect

any adhesion, hernia, or twist. The small intestine was opened and stitched to the lower extremity of the abdominal wound. About seventy-two ounces of thin, fæcal matter was discharged. The patient could not be made to rally, but died quietly three hours after the operation.

An autopsy was made by Dr. Gannett, fifteen hours after death. On opening the abdominal cavity, a portion of the large intestine, enlarged to about the size of the calf of a man's leg, was found lying diagonally across the abdominal cavity, from the right ileo-cœcal to the left hypochondriac region. The cœcum was a portion of this, and occupied the last-named position. The upper 30 cm. of the large intestine, and the lower 150 cm. of the small one, were markedly distended, injected, and in patches showing a uniform, dark-bluish appearance.

The portion of large intestine below the distended part mentioned was of about the size of the thumb. It was found that the *cœcum had no attachments*, and that the ascending colon had a long meso-colon, and that this portion of intestine had been twisted once-and-a-half on itself, in the direction of the hands of a clock. This caused a constriction at a point 30 cm. below the ileo-cœcal valve, through which, evidently, nothing could pass. A revolution and a half of this portion of large intestine restored it to its normal position.

The opening in the small intestine, which corresponded to the external wound, was situated 300 cm. above the ileo-cœcal valve. The constricted portion was very dark in color, but showed no evidence of actual necrosis.

The autopsy revealed the reason why the cœcum could not be found *in situ*. Although all the symptoms pointed to the right side of the abdomen, and the incision in the right linea semilunaris was over this, yet it would have been better had a long median incision been made. The operation should have also been undertaken earlier.

CASE VI. STRANGULATED INGUINAL HERNIA; HERNIOTOMY; RESECTION OF INTESTINE; DEATH.

The patient, a well-built, hardy-looking sailor of twenty years, had had a reducible hernia for years, but had never worn a truss. He thought that he strained himself while at work on his vessel, for there was a pain in the region of the hernia, and that night the rupture would not go back as usual. All the symptoms of strangulation set in, but it was not until four days afterwards that his vessel reached Boston, and he was taken to the City Hospital. There was found in the right groin, extending from the external ring to the lower extremity of the right side of the scrotum, a prominent swelling of a red, dusky hue, the size of a fist. The overlying tissues were œdematous and somewhat tender. Abdomen moderately distended and tender.

A vertical incision was made over the most prominent part of the tumor, and passing nearly to the end of the scrotum. The tissues were divided, layer by layer, until the sac was reached. This was punctured, and several drachms of a dark-colored fluid escaped. In the sac was a portion of omentum, almost black, lying in contact with the testis (the hernia being of the congenital variety).

Under the omentum was a loop of bowel, apparently almost necrotic. There were adhesions at the rings. After free incision of the constricted parts, *including both rings*, healthy bowel was brought down, and resection decided upon. The incision was carried up in the right linea semilunaris for three inches. The necrotic omentum was excised, and the stump secured in two sections by carbolized silk and dropped into the peritoneal cavity. The dark portion of the intestine was removed, together with a good margin of apparently sound gut on each side. The mesentery was secured by a running suture. The ends of the intestine were united by a dozen Lembert stitches, and the whole was then dropped back into the abdominal cavity and the wound closed.

The patient rallied quite well from the operation, but persistent vomiting set in, and finally, collapse, and the patient died quietly eighty-four hours after the operation.

The post-mortem examination showed that the bowel was turned sharply on itself at a point one foot above the cœcum, the finger thus formed being thrust down into the right side of the pelvis, and so firmly fixed there as to require considerable force to dislodge it. The neck of this loop was so constricted that no fæcal contents, evidently, could pass. The intestine above was much distended with gas and fæces, while all below was empty. The point where the bowel had been sutured was found three inches *above* the sharp turn in the bowel, the bowel being collapsed between the two points, and bluish-black at the constricted point.

At the point of suture the intestines were all adherent in a mass, and were so fastened to the abdominal wall that a portion of the latter had to be removed in getting them out. The intestine above was covered with injected vessels — that in the vicinity of the wound was covered with masses of fibrinous false membrane. Union was very perfect, apparently, lymph having filled up the sulcus between the two rolled-in edges, except at one point, where these edges seemed to have sloughed off, and at this point a probe could be passed out into a cavity which had been walled off by peritoneal adhesions. Along the mesenteric border, when the surrounding intestines, which were closely adherent, were pulled away, was found a small quantity of pus.

This patient died of combined external strangulation at the ring (hernia), and internal strangulation within the pelvis.

Probably the strangulated hernia preceded the other condition. Strangulated hernia of five days' duration commonly ends in death, or artificial anus. The necrosed piece of intestine removed was from three to four inches long; the gut on either side appeared well, and the internal strangulation, lower down, was not discovered. The sloughing condition of the scrotum was also an element in the prognosis. The patient was a tough young sailor, and survived his first attack eight and a half days.

CASES VII AND VIII.[2] STOPPAGE OF BOWELS. RECOVERY WITHOUT OPERATION. STOPPAGE OF BOWELS WITH PERITONEAL IRRITATION.

The two following cases occurred in the practice of Dr. George B. Shattuck, and he has kindly allowed me to report them.

C., a cabinet-maker, fifty-four years of age, entered the Boston City Hospital, October 9, 1886. Accord-

[2] See page 13 of the Journal.

ing to his account six or eight months previously began to have pain in the umbilical region, frequent eructations, a good deal of nausea, and occasional vomiting; had some shortness of breath and general weakness, but continued to work up to four days before coming to the hospital; since which time his bowels had not been moved; he had had great pain all over the abdomen, so severe as to keep him awake at night and prevent his lying on his back or straightening out his thighs; had kept his bed for the past four days, vomiting all food and the medicines he had taken, among which were cathartics.

On admission, temperature 99.6, pulse 88, respiration 36; tongue covered with thin white fur; abdomen somewhat distended, tympanitic, very sensitive throughout to deep pressure. Was ordered twenty minims of the deodorized tincture of opium, to be repeated in an hour, *si opus sit.*

October 10th. Fairly comfortable night, less pain, bowels moved slightly by enema. Liquid diet, small quantities frequently repeated. Opium continued, *pro re nata.*

October 11th. Vomited several times during the morning, the vomitus being stercoraceous. Pain controlled by opium. A rectal injection of five pints of tepid water administered with long rectal tube brought away very little fæcal matter.

October 12th. Abdomen less tympanitic, softer, less tenderness, no vomiting; some prominence in the umbilical region; patient takes scarcely any nourishment; vomited several times, vomitus stercoraceous. Large enemata of tepid water without result.

October 13th. Occasional vomiting of same character, rather more tenderness and fulness at the umbilical region. Enemata without result. Temperature 98°, pulse 88. (Seen by Dr. Cheever with reference to the propriety of surgical interference.) "This I decided against because I could not localize the difficulty. The patient looked badly, haggard, anxious, and emaciated; vomiting and tympanites were the prominent symptoms — but it did not seem to me that an incision afforded sufficient promise of success."

October 15th. Enemata continued since last record, and on this day a good deal of thin fæcal material came away. No vomiting since the 13th, patient somewhat more comfortable with a little relish and desire for food.

October 16th. Bowels moved spontaneously, a moderate amount of thin, orange-yellow fæcal material being evacuated. Temperature normal, pulse 80.

October 19th. Enemata continued, and much thin fæcal matter has been evacuated during the last few days. Last night, after several hours of severe pain, patient passed per anum, a hard irregularly cylindrical mass with rounded ends, measuring three-and three-fourths inches in length, and one-and-one-fourth to one and one-half in diameter, so hard as to be broken with difficulty, of slight fecal odor, consisting of dark orange and grayish material in flakes and lumps, firmly compacted together.

A. B., female, forty-three years of age, single, domestic service. Always had had very good health. Entered the City Hospital October 27, 1886. Three months before began to have diarrhœa, dejections watery in character, at times very frequent as often as every hour, followed by pain in bowels and back-passage. Occasional vomiting for several weeks and some incontinence of urine, both of these symptoms absent for two weeks before coming to hospital, and the diarrhœa less frequent. Had lost much flesh.

On admission complained of some pain in lower abdomen and small of back.

Examination showed that the abdomen was considerably distended and tympanitic, with marked tenderness and sense of resistance in the right iliac fossa. Rather frequent diarrhœal dejections.

November 2d. No movement of bowels since October 28th. Examination by rectum found the rectum filled with masses of soft putty-like fæces. A hard body felt on the right side, pushing in the wall of the rectum. Attempts to empty rectum by enemata were fruitless. Taking very little nourishment. Vomiting at times, and complaining of rather severe abdominal pain.

November 4th. Vomited frequently, abdominal distension, pain and tenderness increased; tenderness general, but most marked as before, in the right iliac region. Pulse small, increased weakness. Seen in consultation by Dr. Cheever who considered surgical interference undesirable, and thought the chronic peritonitis was possibly due to malignant disease. In this case the aspect was sunken and almost that of threatening collapse.

November 7th. Less pain. less vomiting, increased desire for nourishment. Rectum emptied, and examination by Dr. Cheever who found a hard lobulated tumor behind and at right side pushing in the rectal wall.

November 8th. Enemata of castor oil and olive oil administered since yesterday, had brought away several masses of hard fæces, and during the night the patient had four spontaneous movements, the first since October 28th.

January. The patient is still in the hospital, and a tumor is now very evident above the pubes. She suffers from paralysis of the rectum.

PROGRESS IN DENTISTRY.

BY WILLIAM HERBERT ROLLINS.

EFFECTS OF URIC ACID ON THE TEETH.[1]

The effects of uric acid in the blood is an absorption of the alveoli of the teeth, or this absorption may be accompanied by a new deposit of bone. In some cases, the processes occur side by side on the same alveolus, as on the superior molars, where it is not uncommon to find on the palatine roots absorption, both of the gums and alveoli, while, on the labial roots, the thickness of the alveolus is increased. The formation of tophus often accompanies this disease of the teeth. When it is present, absorption of the alveoli always precedes the deposit by about a sixteenth-of-an-inch. Not infrequently, the uric acid tophus is mixed with a deposit of phosphate of lime. The uric acid dissolves the pericemental membrane. This solution may be free from pain, but usually there is a sense of uncomfortableness in the teeth which are attacked. In addition to the usual constitutional treatment, alkalies should be applied to the gums, as they have the power to dissolve the deposits. Carbonate of soda is mixed with chalk and some pleasant essential oil, and the patient is directed to rub the mixture on the gums before going to bed.

[1] Reese in Independent Practitioner, p. 247, 1886.

CHANGES IN THE TEETH IN LOCOMOTOR ATAXIA.[2]

The writer believes that the changes which are found in the trigeminal nerves, and the functional disorders that may result from them, favor the growth of germs, which, in his opinion, are the immediate cause of the loss of the teeth. He was not able to find any differences in the teeth lost in this disease from those shed in the ordinary alveolar pericementitis.

A NEW STREPTOCOCCUS.[3]

Mr. Black describes a new streptococcus, which he considers the cause of sordes in fevers. Cultivated on gelatine, its colonies become milk-white in three hours, and in tubes of peptonized broth, the contents are completely gelatinized in fifteen hours. Unlike other streptococci, it does not form in pairs or rows of even numbers, odd numbers being as frequent. When present, the dorsum of the tongue is its favorite seat.

FOUR SETS OF TEETH BEFORE THE AGE OF FIFTEEN YEARS.[4]

The child, who was under the care of Dr. Gatching, developed the first set of teeth at the age of six months. These teeth were all shed at nine months. At eleven months, she began teething again, another set of teeth being erupted in four months. Six weeks after, these teeth began to crumble, and were entirely lost. Her weight at this time was ten pounds. At thirty months the third set appeared, and these remained till the age of four years, when they were extracted. The fourth set began to erupt at eleven years, and the dentition was complete at fifteen.

SYPHILIS IN RELATION TO DENTISTRY.[5]

The patient who intends to go through a course of treatment for syphilis with a minimum of suffering must place himself in the hands of a competent dentist, because tartar, carious cavities, or any rough points about the teeth are almost sure to produce a most luxuriant growth of mucous patches or destructive ulcerations. When the teeth or gums are out of order, the patient is so intolerant of mercury that it is almost impossible to give him enough for his disease. These oral lesions are so actively contagious, that every precaution should be taken to clean the instruments after they have been used. A lesion so slight as to escape notice, may be the means of transmitting the disease to another person through improperly cleaned instruments. A safe rule is to use no instruments which we should hesitate to put in our own mouths. Lydston does not consider that the absence of Hutchinson teeth invalidates a diagnosis founded on other grounds, and points out that few children so badly affected reach the age of teething.

RELATIONS BETWEEN DISEASES OF THE GUMS AND DISEASES ELSEWHERE.[6]

The various skin eruptions, vomiting, convulsions, diarrhœa, and constipation, so frequently found to be coincident with teething, are supposed by the writer to be due to an infection of micro-parasites in the gums. For treatment, he uses a mixture of chloride of sodium, two parts; iodine, one part; and water, two hundred parts. With the paling of the gums which follows the local application of this mixture, there is a concomitant subsidence of the catarrh of the respiratory and digestive surfaces, and the feverishness and reflex nervous phenomena come to an end.

ACCIDENTS IN TOOTH EXTRACTION.[7]

The patient was supposed to have a malignant tumor of the rectum, for a hard, well-defined tumor, painful to the touch and ulcerated, could be felt encroaching on the external sphincter. She was put under preparatory treatment for an operation, but, being attacked by pneumonia, the operation was delayed, and in the course of a few weeks, while at stool, a hard point was felt in the tumor, which, on removal with the finger, proved to be a tooth. She then remembered that, fifteen years before, she had swallowed a tooth when her teeth were being removed for an artificial set.

GASTROTOMY FOR THE REMOVAL OF ARTIFICIAL TEETH.[8]

The patient, a robust man, thirty-seven years old, swallowed his teeth September 23d. By July 23d he had lost sixty-seven pounds, and was growing weaker. Therefore, an operation was decided on. A preliminary examination showed that the plate was in the œsophagus, fourteen inches from the incisor teeth. On August 5th, an incision six inches long was made, one-and-one-half inches below, and parallel to, the margin of the left hypochondrium. It began at the outer border of the rectus abdominis, and three inches from the tip of the ensiform cartilage, extending outwards and downwards. The stomach was drawn out and placed on a carbolized towel. An incision large enough to admit the hand and forearm was made in its walls. The middle and index fingers being inserted into the œsophagus, grasped the plate and removed it. The patient recovered rapidly, weighing, on November 13, forty-six pounds more than at the time of the operation.

GANGRENE OF RIGHT LUNG FOLLOWING PYORRHŒA OF THE TOOTH-SOCKETS.[9]

The patient, thirty-one years old, was far from strong, and for many years had suffered from Rigg's disease, from which her teeth were so loose that they were extracted. Under the anæsthetic given for the removal of the teeth she collapsed, rallying under stimulants. The gums healed rapidly, in three days showing no signs of suppuration. For a day or two the patient seemed to be recovering, but on the fifth day the temperature rose to 103.4°. Then followed cough, scanty expectoration of viscid sputa, which grew more putrid. Death took place on the nineteenth day. The autopsy showed many cavities in the right lung, filled with foul, greenish-yellow fluid.

LOSS OF SIGHT FROM AN ULCERATED TOOTH.[10]

An unsuccessful attempt was made to extract an upper eye-tooth. Great swelling of the face followed, an abscess forming in the orbit, which resulted in total loss of sight. An examination, two months afterward, showed the disk white and sharply outlined. From its lower edge, there ran three white lines downward, the remains of the obliterated vessels.

[2] Galippe in British Journal of Dental Science, p. 583, 1886.
[3] G. V. Black in the Independent Practitioner for 1886, p. 546.
[4] Dental Cosmos, p. 714, 1886.
[5] Lydston in Dental Register, p. 388, 1886.
[6] Koczorowski in British Journal of Dental Science, p. 644, 1886.
[7] Mathes in Archives of Dentistry, p. 284, 1886.
[8] Richardson in Boston Medical and Surgical Journal, p. 569, 1886.
[9] C. E. Stedman. Boston Medical and Surgical Journal, p. 441, 1887.
[10] Burnett in Ohio State Journal of Dental Science, p. 331, 1886.

From the upper edge, ran one white line, and a narrowed artery and vein still containing blood. The fundus was even in tint, with two exceptions: pigment patches were found in the macula region, interspersed with white lines. The interest of the case lies in the similarity of the ophthalmoscopic appearances to those seen in blindness after facial erysipelas.

EXCISION OF THE LOWER JAW FOR THE RELIEF OF MECHANICAL TRISMUS.[11]

He reports three successful cases, and recommends the operation in all similar ones. The directions given for operating are to take the tragus of the ear as a guide, and make a horizontal incision of an inch across and down to the neck of the jaw, so as to divide the neck by means of strong cutting-forceps, and then to evulse the condyle by impacting a strong steel point into the bone, to act as a lever to turn out the bone. The interarticular cartilage is left, to prevent osseous union. This operation is another instance of the warrantable sacrifice of healthy parts so as to affect the well-being of the whole body.

CYSTS OF THE JAW.[12]

There are two kinds of cysts in the jaws. The first are due to tooth-germs which have not developed. The second arise from the periosteum surrounding the roots of the teeth. Under some inflammation the periosteum separates from the tooth and forms the wall of the cyst. The fact of the second kind of cysts being sometimes lined with epithelium does not prove that these cysts are formed from masses of epithelium left over in the jaws from the days of tooth formation, as it may easily rise from the original follicular membrane which surrounds the tooth-germ and which is afterwards converted into the root-membrane in the adult tooth. Each cyst that has its starting point at the root of a tooth, results from a previous lesion of that organ, and is immediately dependent on the inflammatory exudation which arises in the ligamentous fibres surrounding the root, which remains free and denuded in the sac. This mode of origin is similar to that of sub-periosteal abscesses, the difference being that owing to the intensity of the inflammation the exudation is purulent, while in the other it is serous. The treatment of the second form of cysts consists in inserting minute metal drainage-tubes through which suitable antiseptic and astringent washes are to be injected. Magitot claims to have used this treatment with success for ten years.

PLANTING TEETH IN ARTIFICIAL SOCKETS.

Dr. Younger has invented this new operation. When a tooth has been lost he drills a suitable hole in the alveolus. Into this hole, which should be of the same shape as the root of the tooth to be planted, he forces the tooth which has been previously filled and soaked in a solution of bichloride of mercury in water, of a strength of one to a thousand. In most cases no ligatures are required to hold the tooth in position. There is little soreness of the parts, and in a day or two the tooth feels like the others in the mouth. Younger considers a tooth which has been out of the mouth for several years as good as a recently extracted one, as the root-membrane retains its vitality as do seeds. There are two dangers in the operation; First, one may transmit syphilis or other disease; Second, the planted tooth has no living pulp and is more liable to decay, and like all pulpless teeth may ulcerate. I have examined the teeth of sheep with the view of dissecting out the incisors of a freshly killed animal of the proper age to have the roots unclosed. The pulps in these cases are large, and if properly cut off and inserted into the human jaw ought to go on growing. If this should happen, the roots would close and the tooth would then be a living tooth, instead of a pulpless one. By cutting off the ends of the crowns of a sheep's incisors, these would answer very well for this purpose, and if Younger's operation is really a successful one as tried by three or four year's time, this experiment will be made.

ON THE IMPORTANCE OF REGULARLY EXAMINING THE SALIVA.[13]

Now that we know that decay in the teeth is due to acids formed from fermenting substances, the importance of keeping the saliva alkaline cannot be overestimated. If it is acid or neutral, it cannot neutralize the acids formed in fermentation, which collecting in the spaces between the teeth and about their necks, are certain to produce decay. The patient should be taught the use of litmus paper, and directed to test the reaction of the mucous membrane and parotid saliva at least once a week. If the reaction is acid, he should take the remedies found appropriate to his case. Fermentation takes place in every mouth, and yet there are many persons in whose mouth decay is either wanting or is what may be called accidental. In all such mouths the reaction of the saliva is always alkaline.

ADMINISTRATION OF NITROUS OXIDE.[14]

As at present given, the gas is exhaled into the surrounding air through a separate valve. The patient in this way always inhales the pure gas. Hewett claims that anæsthesia can be made longer by inhaling the fresh gas till anæsthesia has begun; then by turning the stopcock, shutting off the supply of fresh gas, and allowing the patient to breathe in and out of a bag of gas holding two gallons. He gives the following explanation of the method. If, after allowing the patient to breathe fresh gas till anæsthesia has begun, we then present to the lungs and so to the cerebral centres, an atmosphere of nitrous oxide, which is not quite so concentrated, in other words, one which contains a little oxygen, the respiratory centres will continue to discharge rythmic impulses, and so respiration will go on longer than it would were fresh gas constantly inhaled. In this way the whole of the blood becomes saturated, and so the anæsthesia is prolonged.

EFFECTS OF TINCTURE OF CHLORIDE OF IRON ON THE TEETH.[15]

A tooth immersed in a solution of the tincture in eight parts of water has its enamel entirely destroyed in one hour. The tincture, therefore, should never be diluted with water before it is taken, as this dilution makes the preparation more active than the undiluted tincture, for the hydrated oxide of iron which is thus formed, does not adhere to the teeth as strongly as the anhydrous peroxide that forms in the original preparation, and on this account they are

[11] Richard Davy in London Dental Record, p. 502, 1886.
[12] Magitot in British Journal of Dental Science, p. 1033, 1886.
[13] Dental Cosmos, p. 627, 1886.
[14] Hewitt in Journal of British Dental Association, p. 349, 1886.
[15] Weld, in Dental Cosmos, p. 627, 1886.

acted on more rapidly. For administration, the preparation should always be diluted with alcohol or syrup.

TREATMENT OF SALIVATION IN PREGNANCY.[16]

The author considers that his experiments, which are extensive, show that bromide of potassium is the most efficient preparation for this purpose. In one of his analyses of saliva, he found that ptyalin was entirely absent.

ON THE ABSORPTION OF DENTINE.[17]

The experiments were undertaken to determine whether the structures of the teeth took any part in the absorption of their roots, or whether this absorption was due entirely to cell-formations of the root-membrane or other tissues outside of the tooth. In order to prevent the participation of the teeth in the process, it was decided to see if the same absorption would take place out of the mouth. Pieces of tooth were introduced into the abdomen by means of incisions through the skin and deeper tissues. After periods varying from three weeks to three months, the rabbits were killed and the pieces examined. They were in every case found encapsulated with connective tissue densely filled with round cells. On decalcifying and making sections, the dentine separated from the surrounding capsule, leaving a hole exactly like the piece of tooth. In the pieces examined after six weeks, the process of absorption had begun at all points not covered with pericementum. At these latter points a perfectly firm union had taken place with the surrounding tissue, so that the dentine could not be removed without tearing the new membrane. In no case was there union except when the cementum was present. Taken in connection with the contribution of Younger on the vitality of the periosteum of the root, Miller's investigations show how important it must be in performing Younger's operation of tooth-planting, to preserve the cementum of the root unimpaired, as even when the periosteum is torn off the soft tissues of the cementum evidently have the power of producing a new covering, just as in bone, which has been deprived of its periosteum there is in favorable cases a new covering developed from the soft tissues of the bone. Cementum resembles bone so closely in some ways that this similarity might have been expected.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

G. H. MONKS, M.D., SECRETARY.

MEETING February 2, 1887. DR. J. C. WARREN, in the chair.

DR. DAVID W. CHEEVER showed a specimen of

OSTEO-SARCOMA OF THE SCAPULA

of five years duration, and related the history of the case.

The patient was a strong woman, and it was decided to operate, with a view of probably removing the scapula, and leaving the arm. It was found that a strong bony bridge united the scapula by the coracoid process to the clavicle. A portion of the outer end of the clavicle was cut away, and then the whole growth removed with the entire scapula; the arm was left. Hæmorrhage was slight, but shock extreme; and the patient survived the operation only a short time.

The statistics of removal of the entire scapula are very favorable. The mortality is about twenty per cent.

Had the growth been free and on the scapula alone the operation would have been less prolonged and probably not fatal.

The key of the operation is to unlock the coracoid process from beneath the clavicle; and at this most dangerous part of the operation, involving the vicinity of the subclavian vein and artery, and of the brachial plexus, the dissection of the subclavian triangle was impeded by the synostosis of the scapula and clavicle. The subclavian region was overlaid by a dense bony plate. It was divided and raised without injuring any large vessels or nerves. The supra-scapula, posterior-scapula, and sub-scapular arteries were controlled without difficulty.

DR. D. W. CHEEVER read some remarks upon

ABDOMINAL SURGERY: ILLUSTRATING THEM WITH EIGHT CASES.[1]

DR. M. H. RICHARDSON spoke of the difficulty of removing a kidney which had been for a long time the seat of a suppurative process. In such cases the surrounding parts become so closely adherent that it is almost impossible to isolate the kidney itself. This difficulty had been met with the past summer in making an attempt to remove a kidney which had been suppurating for many years, and from which the speaker had removed a calculus several years before. On cutting down upon the kidney nothing was found remaining of its original structure except a thin shell so closely adherent to the surrounding parts that its removal was out of the question. The original cavity of the pelvis had become enormously distended, and very little, if any, of the renal substance remained. This cavity was drained and the patient made a good recovery, with a small sinus still discharging when he left the hospital.

DR. J. C. WARREN said that the attention of surgeons had been called anew to pus in the neighborhood of the appendix vermiformis, by the interesting article of Dr. R. H. Fitz, which had recently appeared. A case which had come under his care at the hospital in December, was worth quoting in this connection. The patient, a healthy Irish woman, forty-seven years of age, the mother of three children, doing "scrubbing" for a living, presented herself at the hospital with a painful swelling in the ileo-cæcal region of one week standing. Three or four weeks previously she had an attack of acute pain at this spot which confined her in bed two days. Eight days before entrance she exposed herself to wet, and on the following evening was seized with severe pain, a chill and considerable nausea but no vomiting. The pain had continued since in the right iliac region. There was no constipation.

On examination a large indurated mass was felt in the right iliac fossa with a distinct outline extending from just below the margin of the ribs to the crest of the ileum. No induration or redness of the abdominal parietes was found. The swelling was tender all

[16] Schramm, in Ohio State Journal of Dental Science, p. 128, 1887.
[17] Miller, in Independent Practitioner, p. 16, 1887.

[1] See page 6 of the Journal.

over, but very painful at a spot one-and-one-half inches above and one inch anterior to anterior superior spinous process. The expression was anxious, face flushed, tongue furred, pulse 90, nausea, but no vomiting. A poultice was applied for the relief of pain. Two days later an aspirator was introduced at the tender spot, but no pus found. Nevertheless, after consultation with Dr. Fitz, an incision was made on the following day, beginning a little in front of and below anterior superior spinous process, and extending upwards and backwards three-and-one-half inches. The various layers of the abdominal wall were divided and the surface of the swelling reached. A trocar was thrust into it in the direction of the pelvis and about three ounces of bad smelling pus evacuated, the opening was enlarged and a large drainage-tube inserted and stitched to the upper end of the wound which was closed by suture. The temperature, which was 102.5° on the evening previous, sank in two days to normal and continued so until the wound was entirely healed a month later.

DR. RICHARDSON spoke of the treatment of obstruction to the bowels sometimes seen after the operation of herniotomy has been done. In one of his cases the reduction of strangulated bowel had been followed by complete obstruction. At the end of four days the question of interference came up. The only methods of relief were in resection and artificial anus, it having been first determined that there was gangrene of the intestine. After consultation, resection of the gangrene bowel was decided upon and performed. About nine inches of gangrenous bowel were removed, and the ends of the healthy intestine brought together and sutured with silk, which had been specially prepared for a previous operation on the stomach. The patient died in twelve hours from exhaustion. The bowel was removed and found to be perfectly tight and the surfaces already firmly glued together. The operation lasted but twenty minutes, and probably added but little to the profound shock which already existed as a consequence of five days of complete obstruction and gangrene.

In this case it seemed best to do resection because the condition, which is most to be feared after this operation was already present, that is, the existence of a septic process in the peritoneal cavity. The operation of excision of the putrid mass would add nothing to the already existing local peritonitis and very little to the shock. The operation of making an artificial anus would not remove the danger of general peritonitis and would require an equally dangerous operation at some future time. It seems quite probable that this operation would have resulted favorably, considering the appearance of the specimen, had there been sufficient strength on the part of the patient to have resisted the prolonged shock of total obstruction, and gangrene.

DR. BRADFORD related a case of strangulated hernia which he had met with in practice, and in which he sewed the gut to the opening, on account of the gangrenous condition of the strangulated portion. The hernia was in the right femoral region. The patient recovered from the operation, but died in about ten days afterwards from starvation, it being found at the autopsy that the strangulation had occurred so near the pylorus that not enough of intestine remained above the artificial anus to carry on nutrition. The fact was noteworthy in that it is quite unusual for the upper part of the small intestine to occupy the region in the vicinity of the hernial canal.

DR. GEO. B. SHATTUCK thought that in the past, as formerly with tracheotomy, the tendency had been, as a rule, to delay too long the consideration of the propriety of operative interference in cases of intestinal obstruction. Not that such interference was by any means always advisable, but the advisability should be carefully weighed before collapse rendered the operation desperate if undertaken. From such motives Dr. Cheever had been asked to see the two cases reported as having been in Dr. Shattuck's service at the City Hospital. The event in each of these cases had certainly justified Dr. Cheever's decision not to resort to laparotomy. The first case had recovered completely by means of repeated large injections, and the second case had slowly gone on to a fatal termination, shown by the autopsy to be due to tuberculosis originating in the fallopian tube, followed by abscess and general chronic peritonitis.

The plug or enterolith which was brought away in the first case was of a peculiar character and had been given to Dr. Gannett for analysis, but had not yet been reported on. Its gross appearance suggested those cases of obstruction from drinking shellac, so common among the poorer classes of furniture-polishers in Berlin, where after the absorption of the alcohol, which is the temptation, the resin collects in the intestine. The patient, singularly enough, was a cabinet-maker by trade, but a respectable, intelligent man who denied having indulged in further intimacy with his shellac bottles than drawing the corks with his teeth, and who was sufficiently well off to have procured alcoholic stimulant in a more attractive form, had he desired it.

DR. DOUGLAS GRAHAM said that at a meeting of the Royal Medical and Chirurgical Society, which was reported in the *London Lancet*, December 18, 1875, Dr. Brinton stated that of six hundred cases of intestinal obstruction, fifty-three per cent. were due to intussusception, and of these thirty to forty per cent. terminated favorably. The question was asked whether such a dangerous operation as laparotomy was justifiable in this affection in which the proportion of cases of recovery by other means was so high. Dr. Brinton also stated that the operation of laparotomy is only of value in the early stage of this malady, when the condition was one of obstruction and not of enteritis.

Dr. Graham added, that massage had been used in a number of these cases after the failure of other means, laxatives, anodynes, fomentations and injections, and in all the cases *reported* this method had proved successful, recovery resulting. It may have been employed in other cases *not reported*, where it was of no benefit or possibly did harm. In such cases massage should not be employed in the presence of inflammation, enteritis, or sloughing.

DR. G. H. LYMAN spoke of the value of an early diagnosis, which could often be made in pelvic abscesses by a vaginal examination. Such abscesses should, if possible, be drained at once.

DR. E. H. BRADFORD said that most of the cases of abdominal abscess which he had met with in practice were cases of psoas abscess which had not descended to the leg, and that the patients were chiefly children. He advocated early operation, if possible, before the abscess has reached the leg. He employed

the method first recommended by Kocher, of opening the abscess in the loin, and in the groin also as soon as it pointed there.

DR. EMERSON in connection with the conservative treatment of abdominal abscesses, mentioned a case of his own, a psoas abscess, where through the neglect of the mother the child was not returned for treatment, but was kept in a plaster jacket for about a year, at the end of which the psoas abscess which formerly had pointed in the groin was not to be found. It had apparently dried up.

DR. J. W. ELLIOT mentioned three cases of his of suppurating ovarian cyst which had shown the good effects of drainage. He had followed Tait's recommendation to do laparotomy and drain from above.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, May 19, 1887.

DISCUSSION ON THE MANAGEMENT OF EMPYEMA, MEDICAL AND SURGICAL.

DR. L. EMMET HOLT read the first paper, his subject being:

SPONTANEOUS ABSORPTION IN EMPYEMA IN CHILDREN, AND THE RELATIVE ADVANTAGE IN CHILDREN, OF ASPIRATION AND EARLY INCISION.

More than one-half of all the cases of empyema, he said, occurred in subjects under ten years of age. The prognosis, however, was much better in children than in adults. Spontaneous absorption might possibly occur; but it was extremely rare, and he had been able to find but two cases of this on record, in which the diagnosis was verified by the test of the hypodermic syringe. As a result of his studies it was evident that the chances of recovery by means of nature's unaided efforts were very small. Having remarked that empyema was in reality nothing but an abscess in which the outer wall was rigid and the inner wall yielding, he said that the indication for treatment was to try to get rid of the pus in the easiest and safest manner possible, and that the only methods which he should discuss were aspiration and free incision.

The advantages claimed for aspiration were the following: (1) Simplicity; (2) freedom from danger; (3) that it does not remove the fluid rapidly; (4) that it does not require general anæsthesia; (5) that it does not require that the patient should be confined to bed; (6) that many cases are cured by aspiration alone. As a matter of fact its advantages, with the exception of the last, were not superior to those of incision. Of 121 cases of aspiration collected by him, 23 cases, or 19 per cent., were cured and six died. The remainder were subjected to other methods of treatment. In all but one of the 21 successful cases the empyema was localized, and in 8 a single aspiration was sufficient to effect the cure. Aspiration had many obvious objections, and among them were the following:

(1) The entire quantity of fluid cannot be removed by this means.

(2) The terror often excited in children, especially when the aspiration has to be repeated a number of times, constitutes a serious obstacle to its success.

(3) Where septa exist in the pleural cavity, but one division of the latter may be evacuated.

(4) There are certain cases where aspiration is not available, and if the case is allowed to go on for a considerable time without evacuation, septicæmia and other serious consequences are liable to result.

Among the advantages of incision were, first, its universal applicability, and, secondly, the fact that it enables the surgeon to explore the pleural cavity thoroughly. While the exposure of the cavity and the admission of air were formerly well-founded objections, since the introduction of antiseptics this was no longer the case. As to the use of general anæsthetics Dr. Holt said that he knew of two instances in which death resulted from this cause, in consequence of the rupture of a bronchus. He had never known of this untoward result occurring in a child, but he thought these cases were sufficient to warn us against the use of general anæsthetics in cases of empyema. He did not know whether local anæsthesia by cocaine, had been resorted to in this connection, but he should suppose that this would answer every purpose.

Considering the results that were met with, he thought it was no wonder that a low estimate was entertained of the operation by the older surgeons, and he quoted the opinion of Sir Astley Cooper and others, whose experience led them to regard it as almost necessarily fatal. He had collated 59 cases in children performed at a later period, but before antiseptics had come into as general use as at present, in which there were only eight deaths. Out of 63 cases in which the operation was done under strict antiseptic precautions, however, there were but two deaths: and he thought that no more complete evidence than this could be furnished as to the advantage of antiseptics. As to duration, out of 80 cases in which antiseptics were used, 5 cases lasted 4 months, or more; and in the remaining 75, the average duration was 6 weeks. In 21, the duration was one month, or less. In cases in which antiseptics were not employed, the average duration was 6 months.

DR. HOLT'S conclusions were as follows:

(1) All methods yield better results than non-interference.

(2) No case should ever be left to the unaided efforts of nature.

(3) Aspiration holds out a possible chance of cure, especially when the empyema is localized.

(4) If, after two aspirations, the fluid continues to accumulate, this method should not be persisted in.

(5) In large effusions it is well to make one aspiration before resorting to incision.

(6) In all other cases a free incision should be made, preferably under local anæsthesia.

Finally, he said, we could have no better guide, as a rule, in empyema, than Wagner's words, "Early incision, perfect drainage, and complete antisepsis."

DR. F. HUBER read a paper on

ACUTE EMPYEMA IN CHILDREN,

in which he said that errors in diagnosis were of very frequent occurrence, especially in the earlier period of the disease, and also when it was complicated with pneumonia. A careful physical exploration and the use of the hypodermic syringe, however, would enable the physician to appreciate the real nature of the case. As to the matter of treatment, no medicinal agent would have any effect is producing absorption; but symptomatic and palliative remedies were of service, and it was important that the patient should be

placed in the best hygienic surroundings possible. As regards surgical interference, the more promptly this was made, in general, the better would be the results obtained: provided it was not during the first few days of the attack. As a rule, he had found it better to wait until a week or ten days had passed; so as to allow the acute febrile symptoms to subside, and give the patient a chance to rally. After this judicious delay, aspiration might be tried first; the hypodermic needle having been previously inserted at the point where the aspiration was to be made, in order to be sure of the presence of pus in this situation. Anæsthetics were not required for this operation.

If, after aspiration, the pus was found to be laudable and inodorous, and if it did not accumulate again very rapidly, aspiration might be repeated; but, as a rule, more radical measures were called for. Incision should not be long delayed, because the disease was characterized by fibrinous deposits, as well as purulent effusion, and the fibrine was liable to become decomposed and cause sepsis. The incision should be from an inch to an inch-and-a-half in length, and followed by the insertion of a drainage-tube; after which the cavity should be washed out with antiseptic fluid, and an antiseptic dressing applied. He had found local anæsthesia by cocaine to be all that was required for this operation.

Of thirteen cases in which he had performed it, three had proved fatal, one of the children dying from exhaustion, one from gastro-intestinal catarrh, and one from erysipelas. All but two (2) of the remainder had made perfect recoveries, and the average duration of the trouble was seven weeks. He had used injections of bichloride solution (1 to 5,000) in all his cases, and for the final injection, a solution of half this strength (1 to 10,000). He described the essentials of a good drainage-tube, and said that he was in the habit of employing the plan proposed by Baxton for preventing the tube from slipping into the cavity. The retraction of the chest remaining on the affected side, he had found it could be readily overcome by suitable gymnastics and exercise in the open air.

DR. ROBERT ABBE read a paper entitled

GENERAL CONSIDERATION OF THE SURGICAL TREATMENT OF EMPYEMA.

In the treatment of empyema, he said, it was necessary to abandon all idea of securing absorption, and the first thought should be, how to rid the patient's chest of the accumulated pus most promptly. Aspiration might be repeated a number of times, and in a certain number of simple cases, it was competent to secure recovery. As a rule, it was of more service in children than in adults. It was somewhat repugnant to the surgical mind, however, to leave even a small amount of pus in such a place as the pleural cavity, and if the trouble continued for any length of time after aspiration, complete evacuation should be practised. By far the best results had thus far been obtained with free incision, followed by drainage; and experience showed that the eighth or seventh intercostal space was, as a rule, the best position for the incision. Two large drainage-tubes, of the thickness of the little finger, were usually advisable.

In performing this operation, he used a spray of carbolized solution, of three per cent. strength, produced by means of a simple hand-bulb, and as soon as the flow ceased on inspiration, he dressed the wound with sublimate gauze and iodoform. What we wanted, first and last, said Dr. Abbe, was a thorough outlet, and the purity of the wound was the other important factor. In the great majority of cases, he thought, there was no need of injecting the cavity. When there was a hectic condition, however, antiseptic injections, followed by hot water ones, should be employed; and bichloride solution (1 to 8,000), or a weak iodine solution, might be used for the purpose. Two serious results had been observed from injections; namely, toxic symptoms from the agents employed, and sudden death, due probably to either thrombosis or reflexes from the pleura.

The presence of the drainage-tube occasionally caused denudation of the periosteum of a rib, which had been erroneously designated as necrosis. When this occurred, it was necessary to perform resection, but he considered it unjustifiable to resort to this procedure at first. As regards anæsthetics, a few whiffs of chloroform would answer perfectly well for children, but in adults, local anæsthesia, with cocaine, was preferable. A four per cent. solution should be injected into the tissues, and the incision not made until about fifteen minutes afterward, when the anæsthetic effect had reached its maximum intensity. When there was decomposing fibrin, resection of a piece of rib was sometimes necessary, in order to secure free irrigation, and occasionally, in cases where a suppurating cavity remained after empyema, Estlander's operation of resecting several ribs proved very satisfactory. Dr. Abbe also alluded to "through-drainage" and Hewitt's method of "perflation," the latter of which, he thought, could never supplant free drainage.

DR. THOMAS H. BURCHARD said that he had operated in eleven cases of empyema, all of which were of chronic character. The shortest duration up to the time of incision was two months, and the longest thirteen months, the average time being six or eight months. The youngest patient was three years of age. In all the cases the operation was identical, and all were cases which had previously been aspirated, either by himself or some other physician. He made a free incision from one-and-one-half to two-and-one-half inches in length, along the eighth rib. The amount of purulent fluid evacuated varied greatly. In one boy of seventeen, whose case was one of the most chronic met with, there were only seven ounces, while the largest quantity evacuated was twelve quarts. This was taken from the left chest of a young man of twenty-eight, in whose case one-and-one-half pints had been removed three days previously by aspiration. In this instance, two drainage-tubes six inches in length were employed, and notwithstanding the fact that they were secured with plaster to the chest-walls, they slipped into the cavity during the night. He was not permitted to go on with the case, and it was not until a year afterward that they were removed by resection of the ribs, the operation being performed by the late Dr. James L. Little.

As to the results of his cases, he had followed up seven of them for, at least, one year. Three entirely recovered. Two developed phthisis and died, and a third, a year-and-a-half after the operation, now had phthisis. One died of dysentery of tubercular origin, fourteen months after the operation. In two cases he had observed in children, one of which was among his own cases, and the other of which he had seen in consultation with Dr. J. Lewis Smith, hæmorrhage suffi-

cient to cause death had resulted from the operation; and it seemed to him that this accident was analogous in character to that which sometimes happened in the case of old men, where too sudden and complete evacuation of the bladder was made, resulting in capillary extravasation. In these cases, no artery was cut, and no hæmorrhage occurred from the wound, and he thought the matter was one worthy of serious consideration, especially as he had been able to find no reference to such an occurrence in medical literature. As to the time of performing the operation, he thought it should be done early. If delayed too long, the patient would be liable to die, either of phthisis or tuberculous disease of the bowels.

DR. H. N. HEINEMAN said that empyema in children and empyema in adults were two entirely different affections, and in the former, when it was on the left side, it was very apt to be complicated with pericarditis. Having referred to the differences in the physical signs in the two classes of cases, he said that in children, especially on account of the gurgling met with, the affection was liable to be mistaken for phthisis. The use of the hypodermic needle was always desirable for diagnosis. As regards treatment, the indications had been very well stated by the previous speakers. If, after aspiration, the pus remained sweet, he thought it well to resort to this procedure a second time, after which incision should be practised. In the last ten years, he had made use of only one form of incision, and that was the one known as "thorough-drainage." This had been well described by Chassaignac as long ago as 1857, and he wondered that it had not received more attention than it had, since it was, as a rule, followed by the most satisfactory results.

DR. E. G. JANEWAY, having stated that in his own practice, if one aspiration failed to produce relief, he resorted, with very few exceptions, to immediate incision, spoke of some comparatively rare conditions which had not been alluded to in the discussion. The first of these was empyema as an accompaniment of pyæmia, which was usually due to a gangrenous focus. Again, there were extreme cases in which there were double empyema and purulent endocarditis, where the result was rapidly fatal. There were other cases in which although the fluid was septic, we were debarred from operating, and one of this kind he related. The patient suffered from pneumonia consolidation, pyopneumo-thorax, and sepsis, and the fluid in the chest was very foul. Yet at the highest possible point at which an incision would have been practicable only blood could be drawn with the hypodermic syringe. It was therefore necessary to leave the case to the efforts of nature, and strange to say, the patient had made a complete and perfect recovery. In making an incision it was sometimes necessary to choose a different site from the axillary space, and in such cases we should select the spot where we could get pus. He thought it was a good rule always to insert a hypodermic needle at the point where the incision was to be made immediately before operating.

DR. ALFRED L. LOOMIS said that he had been accustomed to regard the pleurisies of children as very different from those of adults. This, acute suppurative pleurisy was very common in children; and, indeed, whenever he found that a child's chest filled rapidly, he felt pretty confident that empyema was present. The treatment which he adopted in such cases was such as had been described here to-night, and he had found it very satisfactory. But acute suppurative pleurisy in adults was a very different matter. It was a dangerous affection, and often rapidly fatal. He had come to regard it as infectious, and it was usually associated with some acute pneumonia in the other lung. We had, therefore, to contend with an acute disease which could not be shortened by removing the products of inflammation. After the acute stage had passed, however, he believed that incision did good, and was called for. In his opinion, these cases were fibrinous pleurisies at the beginning, and after this condition had continued for about twenty-four hours the chest rapidly filled with pus. Chronic empyema was not a simple pleurisy. We had not merely the pleural cavity to deal with, but a constitutional condition, and it was necessary to seek for the cause of the pus. It was not enough to operate; but, in addition, the physician was called upon to sustain the patient's vital powers in every possible way.

DR. J. WEST ROOSEVELT took exception to the use of the carbolic spray, as advocated by Dr. Abbe, since it was confessedly inefficient in destroying germs; and he also thought that antiseptic injections were entirely useless, on the ground that no solution that could be employed could have any possible effect on the walls of the pleural cavity on account of the thick covering of fibrinous exudations with which they were coated. As to the proposed method of "perflation," he said that if a good way of producing perforation of the lung were devised, he thought this procedure was the one to be adopted.

DR. CAILLE objected to the use of carbolic acid in children on account of the danger of producing toxic constitutional effects.

DR. JOSEPH E. WINTERS said that he had careful records of ninety cases of pleurisy in children, and in only four of these was there empyema. In the latter this condition already existed when the patients first came under observation, and of the remaining eighty-six cases, not a single one terminated in purulent effusion. It was also a fact that not one of these cases had now been lost sight of. Owing to the results thus met with in his experience, he was not able to subscribe to the statements made here to-night in regard to the frequency of purulent effusion in children. In the simple pleurisies commonly met with, he had often seen the temperature go up to 103 and 104; but under the employment of rest, hot applications, and sedatives, the cases almost all terminated in resolution in the course of a week or so. In no instance under his care had empyema resulted. Two cases were operated on on account of the mechanical pressure produced by the large effusion present, and while they both proved fatal, at the autopsy no pus was found in either case.

He had never seen a case of empyema in a child in which there was not an abundance of serum, and he therefore considered that the fluid in such cases was capable of absorption. Hence the condition was very different from that existing in empyema in adults, and he should not deem it necessary to resort to surgical procedures except to relieve the effects of mechanical pressure upon the viscera. Children with empyema invariably lay upon the affected side, and, therefore, in order to facilitate absorption, he encouraged the patient to sit up in bed as much as possible. Dr. Winters decidedly objected to the use of the hypodermic syringe or the aspirator until some such pro-

cedure was absolutely necessary, as he believed that the entrance of the needle into the pleural cavity directly tended to convert simple pleurisy into empyema; and Dr. Francis Delafield, he said, had expressed the same opinion to him. The termination into empyema was, as he had mentioned, naturally very rare in children, but when it did occur, and operative interference was called for, he was emphatically in favor of free incision in preference to aspiration.

DR. HEINEMAN related a case in which there was symptoms of collapse due to hæmorrhage, produced, no doubt, in the same way as in the cases described by Dr. Burchard, in which the child's life was apparently saved by the injection of a certain amount of fluid, which was allowed to remain in the cavity.

The President, DR. A. JACOBI, stated that he had frequently observed severe coughing to be set up by the removal of the fluid from the pleural cavity, and that this could only be arrested by partially filling the cavity again by injection. This seemed to him to be due to the irritation caused by the sudden filling up of the bloodvessels in consequence of the bronchial dilatation resulting from the evacuation.

DR. ABBE said that in his opinion the phenomena sometimes noted after the withdrawal of the fluid were of reflex origin; and he mentioned a case in which there resulted aphonia, disorders of vision, and reflex hemiplegic manifestations.

DR. JACOBI thought the symptoms might possibly be explained by sudden hyperæmia of the larynx, with accompanying anæmia of the brain.

SIXTH GERMAN CONGRESS FOR INTERNAL MEDICINE.[1]

THE sixth congress for Internal Medicine, met in Wiesbaden during the Easter vacation under the Presidency of Professor Leyden of the University of Berlin. The meeting was well attended and full of interest. The therapy of Phthisis Pulmonalis was probably as much discussed as any subject. Fresh air was recommended above every thing else, and a much more favorable view taken of the curability of the disease. One reader said that more than half of the cases not far advanced would submit to cure. Prof. Nothnagel, of Vienna, read on the localization of brain diseases. Prof. Adamkiowicz, of Cracow, read favoring the use of catephoresis in neuralgia. Prof. Mering, of Strassburg, reported some experiments on a dog which promise to throw some light on the dark subject of diabetes.

PROF. HAGENBACH, of Basel, read on

THE PATHOLOGY AND THERAPY OF PERTUSSIS.

He found our knowledge of whooping-cough to be defective and contradictory. For himself he had come to the conclusion that it was a true infectious disease, yet the question always presented itself, Is it a general infection or only a local one; Is the situation of the infectious body to be sought in the nose, larynx or the bronchial tubes? On account of this uncertainty, up to the present time there is no firm basis of therapy. He gave these statistics: according to Uffelmann, 240,000 children yearly contract the disease in Germany. In Basel from 1812 to 1872, whooping-cough was next to typhus and diphtheria in its demands for sacrifices. Out of one thousand deaths in Basel, twelve were caused by whooping-cough. In England, twenty-two, in London alone, thirty-six. The mortality statistics bring into prominent view the fact the younger the child the greater the danger from whooping-cough. The complications also, especially those of the lungs, occur much oftener in the tender years. He considers it an infectious disease, which occurs epidemically, is endemic in large cities, and the infectious material is communicable. The circumstance that having had the disease once, guards against future contraction, speaks for a general infection. The localization of the poison to certain parts of the respiratory mucous membrane, and the usual absence of fever speaks for the local infection.

Rossbach, Rehn, Meyer-Hüni and Von Herff have published the most important results of late. From the most recent of these it appears that the laryngeal catarrh cannot be credited with the important rôle it has thus far held. According to Von Herff and Meyer-Hüni, the spasmodic attack originates from a deep point on the posterior laryngeal wall. Rossbach also considers the catarrh of the bronchiæ as important; at the same time he believes in a reflex neurosis, in which the cough centre is irritated by a specific virus. Others, for instance Baginski, considers it to be more of an infectious catarrh. The nasal theory has found many followers of late. Sommerbrodt, following Hack who first introduced the treatment, has cauterized the corpus spongiosum nasi of children suffering from whooping-cough. Micheal, of Hamburg considers it a reflex neurosis, and treats it locally. We have always believed the fungus will be found in the sputum. The different organisms found so far, have led to no conclusion. Efforts to communicate to rabbits have not been followed by success.

Does the sputum in general contain the fungus? We know the susceptibility to the poison is a general one. It is found in the first year of life, though rarely in the first months; children are most exposed until the tenth year. From this time on, the per cent. of the cases is less and less. The disease is contagious in the first and second stages, generally, so long as mucus is produced and the child coughs. The latter statement is probably too comprehensive, as some children cough long in consequence of complications, the disease having entirely discontinued. The contagium appears able to live outside the human body but a short time. Carrying by means of other persons, does not often happen, while this is well known to frequently occur in scarlet fever. The children are isolated only so far as to keep them from healthy children.

Prophylaxis is not practised as it should be. The kindergartens are to be watched with the greatest care; they form the nests for the plague, more so than public schools, because less under control. Schools should be closed and thorough disinfection practised. The author considered the ordinary plan of a change of air bad practice, while it may be good for the child in question, it has the tendency to spread the disease.

Treatment includes the recommendation of a large number of remedies and plans, which places us on the same ground where we were twenty years ago.

Our treatment, therefore, can only be one ofempiricisms.

So great is the number of means of cure, that it

[1] Specially reported for the Journal.

makes the therapeutist skeptical from the start. The general hygienic treatment is of importance, and above all, is to be urged the plentiful supply of good air. One must take into consideration the climatic and meteorological relations. Especially should this be done in the care of young children. As to the question whether the room should be damp or dry, the author decided in favor of dampness. He thought the good results obtained from hanging cloths wet in carbolic acid about the room, are probably due to the dampened atmosphere.

Among remedies, the narcotics and anæsthetics formerly played a prominent part, and still continue so to do. Indeed, no remedy of this group remains unemployed. It is remarkable, in this day, how little we hear of opium and its derivations, though they are used often enough. Henoch recommends morphia, especially for relieving the urgent symptoms. The author was favorable to this medicine, which shortened the troublesome nights and weakened the attacks, and rendered them less frequent. In France, the medicine recommended by Trousseau, belladonna, is used most frequently. The bromides are given internally, and for inhalation. The author used bromide of potassium in connection with chloral. Gerhardt advised a four per cent. solution of bromide of potassium, with chloral, for inhalation. Lorens and Heubner had good results in shortening the attacks by the use of chloral, in doses of seven-and-a-half to fifteen grains. The latter used it in the evening as an injection. Next to opium, the author had obtained the most benefit from the chloral, with bromide of potassium. Cocaine has been recommended for two years past, especially by Prior. The reporter had found no particular result from painting the parts with a five per cent. solution of cocaine. Ether applied along the course of the vagus by means of the atomizer is recommended, and also nitrate of amyl. Recently, the antiseptic remedies are highly spoken of. Preparations of quinia act against the general infection. Give sulphate of quinia or tannate of quinine. He considers quinine a good medicine, which lightens the attacks and shortens the disease. The tannate of quinine made by Zimmer is much used in Basel. It must, however, often give place to other remedies. In Heubner's critical work, quinia is made secondary to belladonna. Carbolic acid is often used by means of cloths dampened in it, and hung in the room. Also, acid benzoate of soda has its followers. Sonneburg, of Worms, has recently published his success with antipyrine, in which he used it in seventy cases, in doses of four-and-one-half to fifteen grammes. Calomel internally, and gray ointment externally, are highly praised. Letzerich first practised local applications, and in many cases had success with insufflation of quinia. No attacks occurred for a long time after the insufflation; perhaps the quiet came from reaction after the severe irritation of the sensitive-nerve filaments from the insufflation. Painting with solution of quinine is also advised. Hopes are cherished from resorcin in two per cent. solution; still more from salicylate of soda. Heubner has found favorable action from inhalation of salicylin. Of the astringent remedies, Meyer praises nitrate of silver and alum as anti-catarrhal remedies. Michael, of Hamburg, insufflates resin of benzoin with surprising success. In France, boric acid, mixed with roasted coffee, is insufflated.

For a further solution of unanswered questions, we must look to bacteriology and laryngoscopy to obtain a firm basis of treatment.

DR. MICHAEL, of Hamburg, in the discussion which followed, strongly recommended the insufflation of disinfectants in the nose. He had thus treated successfully seventy-five cases out of one hundred. The treatment had proven most beneficial in those cases which had already passed the six weeks, or were just in the beginning. In those patients where every action of the inhalation remained absent in the first few days, he was obliged to resort to other remedies.

PROFESSOR HEUBNER, of Leipsic, believed that all those remedies enumerated in his critical work had little favorable effect on the disease. There was, in his opinion, no single rule, as the severity of the attacks, as well as the duration of whooping-cough, depended on individual surroundings. We must consider the number of the attacks. By this and the duration of the disease, we can know whether we have done good or not.

DR. PRIOR, of Bonn, called attention to the fact that the inspiratory stenotic bruit can be entirely absent in pertussis. There is at present an epidemic in Bonn, where this is absent in the majority of the cases. It is, therefore, not always proper to consider this as a characteristic and diagnostic symptom.

DR. SCHLIEF, of Baden Baden, treated his own child in the pneumatic cabinet. After thirteen sittings, the attacks disappeared. The disease, however, returned in fourteen days, and a few more sittings were necessary to complete the cure. He thought from fifteen to twenty sittings necessary, and considered the action mechanical in that it chemically changed the hyperæmia of the mucous membrane, in consequence of the increased inhalation of oxygen. He had also used inhalations of a four per cent. solution of sulphur.

DR. SONNEBERG, of Worms, referred to his report in the *Deutsche Med. Wochenschrift*, where he used antipyrine with success.

DR. COHEN, of Hanover, called attention to the good effects attained by the inhalation of bromide of potassium and the use of musk.

Recent Literature.

Transactions of the Association of American Physicians. First Session. Washington, D. C., June 17 and 18, 1886.

The first volume of the proceedings of this new Society has made its appearance in the form of a handsome volume of some two hundred and fifty pages. It contains the list of officers and members, the minutes of the first meeting, and the constitution and by-laws of the Association. There are, moreover, nineteen papers on various subjects of general medicine, to the whole of which a copious index is appended. Altogether, the book and the work which it represents are most creditable to the Association, which may now be said to be fairly launched on what promises to be a most successful career.

— The *Lancet* computes that between five and six hundred individuals were treated for various causalties during the procession in London on Jubilee day.

THE BOSTON

Medical and Surgical Journal.

THURSDAY, JULY 7, 1887.

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THE FOURTH.

THE glorious fourth of July has passed, and those of us who survive unharmed have reason to be thankful that an opportunity is left us, after the smoke of the celebration has passed away, to count the cost of the exploded gunpowder and moralize over the wounded patriots. Utter recklessness in the use of explosives is not confined to the twenty-four hours that constitute the fourth, but is continued for a space of about three days. During that time it is positively certain beforehand that accidents from fire-arms will be numerous; that a certain number of hands will be disabled; that certain eyes will be destroyed and that a certain number of deaths will follow, if not immediately, yet more or less directly from the accidents during the subsequent weeks. Each fourth of July adds to the number of cripples and dependent persons whose lives are blasted, who are transformed from active producers to mutilated dependents. The character of the injuries has perhaps changed somewhat of late years; the cracker of a few years ago has been supplanted in some measure by the cannon cracker which makes a louder report and explodes with greater violence. The number of casualties due to this giant cracker has been particularly noticeable the present year. It is capable of doing great injury if held in the hand during explosion. The frequency of these injuries is shown by the fact that two men, each one over thirty, lay side by side in the accident room of the Boston City Hospital at one o'clock on the morning of the fourth, each with his right hand destroyed so far as future usefulness is concerned, because he had seen fit to show his patriotism by exploding cannon crackers at midnight and had been foolish enough to allow one to explode while he held it in his hand.

Revolvers and pistols, as a means of celebration have become frightfully common. They are originally produced at low cost, and the boy who cannot obtain a new one can hardly fail to find one discarded by his elders. The pistols are usually claimed to be loaded without balls, but at the close range at which accidents occur, the pasteboard wad penetrates the skin. It may lodge in the flexor tendon of the index finger or penetrate the eyelid and the sclerotic, and destroy the eye. The wounds of the hand made by such wads have of late years been so frequently followed by tetanus as to make them the dread of hospital surgeons. But the use of ball cartridges is not very infrequent, and those who use them exhibit extreme carelessness. It is by no means rare to meet persons injured during the July period of lawlessness by balls which have come from some unknown source.

A procession of those who have been injured by explosives during the gunpowder carnival of the present week in Boston alone, would be a most impressive sight. No immediate deaths occurred so far as is known, this year, but exactly twenty-seven individuals have applied for surgical aid on account of injuries at the Boston City Hospital, and nine beds are at the moment of publication occupied by the victims of casualties. The number treated at the Massachusetts General Hospital is certainly not inferior. Were such a number injured during the same short time, from any cause, at any other season it would be considered something frightful, and public sentiment would demand the instant suppression of the cause. But the half has not yet been told in speaking only of accidents directly from gunpowder. Nor does Boston present an exceptional record.

The disastrous effects of the prevalent methods of celebrating our national *fête* day are unfortunately not confined to the active participants in the demonstration. If a man takes fire into his bosom and his clothes are burned, that result, however lamentable, is not without a certain justice. But we wish to utter a word of protest in behalf of the rights of those who try their best to keep out of the hurly-burly — the non-combatants, so to speak. And our protest is not only for those, numerous as they are, who must annually be shot, singed and mutilated, at the hands of the heedless and irresponsible noise-maker — those we might say who are butchered to make an American holiday, but for the great number of the sick and the feeble whose beds of pain are made racks of torture by the din of horns, powder, nitre, and we believe this year, thanks to the enterprising manufacturer, dynamite. For a week before the day arrives the sporadic and premonitory blasts of the raucous horn are heard. But the distress culminates with the night of the third of July and continues well toward the morning of the fifth. For we have to celebrate not the day of Independence itself but two nights as well.

True that some of the nervously organized are able to hie them away betimes to some quiet spot whereunto the sound of the fire-cracker cometh not. But there still remain through all our cities and towns a great army of sick persons and young children whose welfare is seriously compromised by the noise evolved by the healthy and thoughtless majority. How seriously compromised, can best be judged by the physi-

cians who go their rounds on the fourth and fifth of July to see the tired features to which sleep, however zealously wooed with hypnotic aids, has too long been a stranger. Yearly our police authorities are besieged by anxious requests from apprehensive relatives and from physicians, to abate from some special neighborhood the noise of the Fourth — its preludes and its postludes. But the reply is: not men enough to supply the necessary patrol.

The remedy,— well, that is not so easy to find. So long as every schoolboy can trace his warrant for racketing back to one of the very signers of the Declaration of Independence, we cannot, perhaps, expect much consideration for the welfare of those so unfortunate as to have their season of illness in the early days of July. But both sense and sensibility might combine to restrict the pandemoniac features of the occasion, at most to the one "day we celebrate."

FIRST ANNUAL MEETING OF THE NATIONAL ORTHOPEDIC ASSOCIATION.

THE formation of a National Orthopedic Association is of somewhat more than passing interest. In the last thirty years, this branch of surgery has been developed with a great deal of energy in this country, notably in New York. Any one familiar with the details of the subject and the practice in this department, will have noticed the many improvements in methods which have been introduced into the specialty, so that a relatively new and original school has been formed in America in orthopedic surgery well worthy of the attention of the medical world.

By proficients, it is claimed that all that has been done with us in helping to advance gynæcology to a front rank among the different departments of surgery, is fully matched in the surgery of joints and deformities. The improvements in orthopedic surgery are, however, not as generally known in the profession, for the reason that the glamor (if we may be allowed to use the word in reference to what, to the uninitiated, seems the "infandum" in medicine) which appears to attract a number of general practitioners who interest themselves in gynæcology is not found in a branch where success is won only after thorough and painstaking endeavor carried through a number of years. As few surgeons have worked in orthopedic surgery, few are aware of its successes. It is the object of the new Association to increase the general interest in the department by papers and reports, as well as to gain advantage from each other in the way of stimulus and mutual instruction from personal contact which such associations always give. At the first meeting, papers of a general interest were read by Drs. Morton, Packard and A. S. Roberts, of Philadelphia; Drs. Judson, Gibney, H. L. Taylor, L. H. Sayre, Ketch, Stillman, of New York; Dr. Hodgen, of St. Louis; and Dr. Bradford, of Boston. Dr. Schaffer was elected President of the Association for the ensuing year. We can most heartily wish the new Association success.

MEDICAL NOTES.

— The medical officer in charge of the Marine Hospital Service at Key West reports 51 cases of yellow fever, and 20 deaths, up to June 30th.

— Death occurred recently at University College Hospital from chloroform. The patient was suffering from pleuritic effusion on the left side. A puncture was made, but the fluid did not flow freely, and it was necessary to repeat it. The patient was nervous, and asked for chloroform. The patient died before anæsthesia was complete.

— The *Medical Record* says that a suit was recently brought against the New York Hospital by a patient who had been operated upon for cystitis by cystotomy. The damages claimed were $30,000, on account of impotence from injury of both ejaculatory ducts and wound of rectum. The left lateral incision was made. The plaintiff claimed that, in consequence of the injury, all his semen escaped into the bladder. It was shown by the testimony of Dr. W. T. Bull, the operator, and Drs. George C. Shrady and L. B. Bangs, that such an injury was impossible under the circumstances, and a verdict for the hospital was rendered accordingly.

— In the concluding portion of a continued article on "Fever," published in the *Medical Chronicle*, James Niven, M.B., alludes to the diagnostic interest of the special odors attendant upon some of the infectious diseases. The odor of small-pox, he says, occurs only in the worst cases, and is probably due to a ptomaine generated in the process of necrosis. He then speaks of a peculiar, sweet, almost aromatic odor of the breath that he has noticed in scarlet-fever patients, most marked in the early stages of the disease. A case is mentioned in which a nurse to whom he had pointed out the odor diagnosticated scarlet fever by means of it, in a patient at the height of an attack of small-pox, a whole day before any other scarlatinal symptoms were recognized. Somewhat similar odors are noticed in typhoid fever and measles, but the author says that they can readily be distinguished.

— Mr. Stephen Paget (*British Medical Journal*, March 19, 1887) has, with great diligence, collected no less than 101 cases of parotitis consequent upon injury or disease of the abdomen or pelvis. Of this number, 10 were due to injury or disease of the urinary tract; 18 were due to injury or disease of the alimentary canal; and 23 were due to injury or disease of the abdominal, the peritoneal, or the pelvic cellular tissue. The remaining 50 were due to injury or disease, or temporary derangement of the generative organs. Under the latter term are included slight blows on the testis, the introduction of a pessary, menstruation, and pregnancy. This form of parotitis appears to be non-pyæmic, to have no definite incubation stage, and to end very often in suppuration. Mr. Paget considers that the sequence of disease is due to influences acting through the nervous system.

— We learn from the *Sanitary Engineer* that the

Court of Appeals of New York has lately rendered an important decision in reference to the powers of a town in the matter of the disposal of its sewage. The city of Rochester discharged its sewage into an open drain, which it had constructed across lands situated within the adjoining town of Brighton, and in such wise as to create a nuisance. The town Board of Health thereupon issued an order prohibiting this use of the open drain, but having no power to go within the limits of the city of Rochester, and abate the nuisance by preventing the discharge of the sewage, it brought suit in court against the city for an injunction restraining the discharge of the sewage into the open drain without its own limits, and within the boundaries of the adjoining town of Brighton. The court granted the injunction, and upon ultimate appeal to the Court of Appeals, the action of the court below has been sustained.

— At a recent meeting of the Académie de Médicine, according to the *British Medical Journal*, M. Cornil read a work of MM. Chantemesse and Vidal, upon "River-water and Typhoid Fever in Paris." In this work, the authors prove by statistics the connection between the appearance of typhoid fever, and of the distribution, in Paris, of river instead of spring-water. Pettenkofer's theory of ground-water, together with the discovery of the typhoid bacillus, have led the authors to conclude that, by the diminution in the bulk of water, the pathogenic organisms are concentrated, and, consequently, their dangerous properties acquire greater virulence. Boiling renders the cultivations of these bacilli sterile. M. Léon Colin remarked that the relation existing between the renewed outbreak of typhoid fever in the barracks and the use of river-water had been clearly proved by recent epidemics. River-water is now forbidden for drinking purposes in the barracks. M. Ranse was of opinion than when the administration was obliged to distribute Seine water instead of spring-water, the Paris population should be duly apprised of the fact, in order that proper precautions may be taken.

BOSTON.

— An "agent" is carrying about in this city for the purpose of entrapping the unwary, a hand lens of "400 diameters," whereby he displays the animalcules in "a drop of Cochituate water, that has stood a few days," said animalcules appearing about the size of angle worms. As the lens is of about twenty diameters it is needless to say that the stale "Cochituate water" which he carries for ready demonstration in his pocket is merely a culture medium for pretty gross organic decomposition. The fellow is foolish enough to have visited some physicians, but his victims are likely to be chiefly among the laity.

NEW YORK.

— Dr. Miguel Munez Rossie, one of the leading physicians of Havana, died on the 29th of June, on the steamship *City of Washington*, which had just arrived from Cuba. He had for some time been in bad health.

— At the request of Mayor Hewitt the State Board of Charities is at present engaged in making an investigation into the condition of affairs at the City Lunatic Asylum on Ward's Island, where, it will be remembered, a coroner's jury recently rendered a verdict that the death of one of the inmates was due in great part to injuries received at the hands of two of the attendants. From the testimony that has already been given there can be no question that the institution is overcrowded and that the attendants are insufficient in number, and in certain instances, at least, incompetent; but how far the Commissioners of Charities and Correction and the medical authorities of the hospital are responsible for these evils, it may be somewhat difficult to decide, as the amount of money appropriated for its maintenance is determined entirely by the Board of Estimate and Apportionment.

Miscellany.

A CASE OF TETANUS CURED BY HYPODERMIC INJECTIONS OF COCAINE.

Dr. M. Lopez reports the following case in *El Genio Medico Quirurgico* for February 7, 1887: M. G., fifty, laborer, after working in the wet and cold, complained of rheumatic pains of back and limbs. Three days later, he had marked opisthotonus and painful cramps, and all the symptoms of idiopathic tetanus. Chloral hydrate and morphine were prescribed. For three days the patient was kept under the influence of these drugs, with the result that the pain was lessened, but the muscular rigidity and cramps increased. He now became unable to swallow, and death seemed imminent. Morphine was injected hypodermically, but was followed by no amelioration of the symptoms. Three syringefuls of the mixed solutions of morphine and cocaine (each five per cent.) were then injected. The effect was immediate. After two hours, he could move the limbs, turn in bed, and open his mouth. On the next day he was going on well; slight trismus and stiffness of the neck remained. On both sides of the neck, and at the angle of the jaw, a fourth-part of the syringeful of the same solution was injected. On the next day, all the symptoms had disappeared. The patient rapidly regained strength, and in a week's time returned to work. — *London Medical Record.*

DETECTION OF MORPHIA-TAKING.

The physician who has been worried and deceived by the lying and cheating of the confirmed morphinomaniac or opium-eater, says the *Medical News*, will be grateful for any help toward the diagnosis of this disease, which does not depend upon the morbid imagination or the torpid conscience of the patient. Dr. Oscar Jennings, of Paris, has earned some of this gratitude by following his previous studies of morphinomania with one on its diagnosis and treatment. He suggests, first, the examination of the urine for morphia or opium-salts. The reagents he uses are (1) the double iodide of mercury and potassium (HgCl 13.546,

KI 49.80, H_2O to a quart). This gives a yellowish-white precipitate with the alkaloids. (2) The iodized iodide of potash (I 10, KI 20, H_2O 500), the precipitate from which, in the presence of morphia-salts, is brown or yellowish. If the quantity be too small to discover by one of these reagents, boil the urine to a third, treat with tartaric acid, then dissolve the tartrate of morphia thus formed with amylic alcohol; decompose the salt with ammonia, and if morphia be present, the solution should show a blue color on adding the perchloride of iron. A slightly less troublesome proceeding will detect meconic acid and prove the taking of opium: evaporate, wash with alcohol and boiling water, neutralize with magnesium carbonate, and treat, after filtration, with solution of iron perchloride. A blood-red color is characteristic of meconic acid.

FAMILY PREDISPOSITION TO FRACTURES.

PROF. N. I. STÜDENSKY, of Kazan, adduces an instance (quoted in the *London Medical Record* from the *Dnevnik Kazanskaho Obshtchestva Vratchei*, Nos. 8 and 9, 1886, p. 72) of family fragility of bones. Unfortunately, the details, which concern only father and seven children, are far from being complete. The number of fractures sustained by the family is upwards of fifteen. Here is the list: (1) Father had four fractures (three of the left upper extremity, and one of the femur) during the first five years of his life, while between fourteen and eighteen "he broke many times his legs and arms," and that "always from most trifling injuries, such as making a slip, etc." (2) Second son, at present aged twenty-seven, had six fractures (five of the left forearm, twice both the ulna and radius being broken, and one of the left humerus) during the first six years of life. "All the fractures took place during some harmless plays — from slipping and falling, or from striking his arm against the table's foot, etc." His general state at this time was "satisfactory," but in adolescence he suffered from "extreme anæmia, while now his state is "very satisfactory." (3) Fourth son, always anæmic and emaciated; at three, had a fracture of the forearm (both of the ulna and radius), "from a slow slip on the ice-ground; at five, a fracture of an antibrachial bone from tumbling down during play; at twenty-two, a fracture of his right clavicle from slipping on an ice-glazed pavement. (4) Fifth son, always anæmic, broke one of his forearms in childhood. (5) Seventh son (weak), at five, fractured a forearm, after a trifling fall, when at play in the room.

SOME RARE FORMS OF URTICARIA: GIANT URTICARIA, INTERNAL URTICARIA.

THE *Edinburgh Medical Journal*, June, 1887, quotes from a paper on the above subject by Rapin, in the *Revue Médicale de la Suisse Romande*, No. 17, 1887. The paper, based on eighteen cases, many of which are original, concludes as follows: "Among the various forms of urticaria, there is one remarkable from the considerable dimensions of its patches. It has received, for that reason, the name of giant urticaria. The eruption in giant urticaria may be limited to one or two patches, affecting, sometimes, certain special localities, as the hands, the forehead, the neck. Itchiness, which is regarded, in general, as inseparable from every urticarial eruption, is sometimes absent. The œdema of neuropathic origin, which constitutes urticaria, scarcely pits, and retains but imperfectly the impression of the finger. The absence of these two characters, itchiness and pitting, the result of pressure, have, therefore, no absolute value in the diagnosis of urticaria. Urticaria of the scalp shows itself under the form of hard nodules, resembling the rheumatic nodosites, with which they may be confounded. The production or non-production of pain on pressure, the longer or shorter duration of the phenomena, permit, in the absence of other signs, the differentiation of these two affections. Urticaria does not occur solely on the integument. It is often internal, and has for its seat the mucous membrane of the digestive canal, in any part from the mouth to the intestine. The proofs of this localization are furnished us by the swelling of the tongue and the pharynx, the seat of pain in the course of the œsophagus and in the stomach, and finally, by the digestive disturbances — eructations, vomiting, diarrhœa. The localization of urticaria in the alimentary canal suffices to explain the anxiety and the dyspnœa. The existence of urticaria of the bronchi does not appear to Rapin to have been proved. Urticaria and migraine seem to be related as to their origin, and to belong to the same diathetic stock." Rapin adds: "The supposition of an urticaria of the bronchi does not appear to me tenable, even from a theoretic point of view. In fixing on the pulmonary mucous membrane, urticaria would expose the patient to the danger of asphyxia; its propagation to the glottis would occasion instant death. In point of fact, the prognosis of internal urticaria is not so grave."

THE CONSULTING-ROOM.

DR. DUBRAY has recently published some instructive and amusing advice to a beginner in the profession (*Conseils à un Débutant*), which are referred to in the *British Medical Journal*. The rules about the door-plate, necessary in the provinces, but not considered correct in Paris, concern French practitioners only. Dr. Dubray distinguishes four kinds of consulting-room: the unpretentious, the surgical, the artistic, and the encyclopædic varieties. They are not peculiar to France. In the unpretentious consulting-room the furniture is plain, the book-cases small, and there are just sufficient tables and chairs to allow the patient to sit down and the medical man to write a prescription. The surgical consulting-room presents instruments and appliances scattered about in an apparently artless manner. "Except in the case of a great and celebrated surgeon of admitted renown, an exhibition of this kind is in bad taste," but the exception itself is, perhaps, barely admissible. Complete abstention from parade of instruments is the best rule. It is not advisable to leave hypodermic syringes about the table, with specula serving as paper-weights. These instruments should not, any more than the herbalist's tape-worms and fœtuses in spirits of wine, be made into advertising agents. Even the gynæcological couch should be kept in a corner, and not placed well in the light, displaying a good supply of steps and elevating mechanisms. Such practices savor too much of the crocodile which hung from the ceiling

of the alchemist's laboratory. The term artistic consulting-room, as used by Dr. Dubray, is not quite so innocent in insignificance as it appears. The objects of art are mostly votive offerings of grateful patients, including not only goblets, clocks, and bronzes, but also photographs, with autographs and expressions of gratitude contributed by patients who are distinguished public characters. Were the writer an Englishman speaking of British practitioners, he would add two other examples of art, one of a highly questionable type, the second unquestionably honorable, ornamental, and legitimate. We refer in the first case to framed and glazed diplomas, honorary certificates of proficiency in anatomy, and similar productions which can hardly be classed amongst either literary or artistic ornaments. The second essentially English type of what may be called personal art includes prize cups and other testimonies of the athletic prowess which distinguished the practitioner in the days of his youth. Dr. Dubray rightly condemns an obtrusive display of patient's presents. In the encyclopædic consulting-room, instead of scientific or artistic neatness, the most admired confusion prevails. The tables are strewn with books, pamphlets, and journals, and sheets of manuscript scattered over the ground testify to the literary activity of the practitioner. Dr. Dubray recommends a happy medium. A few artistic adornments, a small library, but not too many books, and no instruments out of their cases should be the essential features of a consulting-room after the most important matter — the arrangement of the writing-table and the chairs in such a position that the patient can sit comfortably in a good light during the consultation.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 25, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Measles.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	788	384	32.24	13.26	.78	9.75	17.03
Philadelphia	993,801	449	198	16.72	11.88	—	3.30	8.14
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	193	104	27.86	12.44	1.56	1.04	20.28
Boston	400,000	152	53	13.00	18.85	4.55	5.85	—
New Orleans	242,750	129	45	20.79	20.02	1.54	2.31	12.32
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	169	119	45.43	8.85	.59	1.18	41.30
Pittsburgh	210,000	119	79	54.18	6.88	—	6.02	42.14
Montreal	186,257	—	—	19.69	—	—	—	—
Milwaukee	170,000	56	32	—	10.74	—	5.37	7.16
Providence	121,000	—	—	31.72	—	—	—	—
Richmond	100,000	41	23	—	4.88	—	—	26.84
New Haven	80,000	—	—	22.61	—	—	—	—
Nashville	65,000	31	14	19.38	6.46	—	—	12.92
Charleston	60,145	31	14	—	9.69	—	—	16.15
Portland	40,000	—	—	10.00	—	—	—	—
Worcester	68,383	20	11	40.40	5.00	—	—	10.00
Lowell	64,051	22	9	33.33	9.10	—	4.55	9.10
Cambridge	59,680	18	9	3.70	22.22	22.22	5.55	5.55
Fall River	56,863	27	8	—	22.20	—	—	3.70
Lynn	45,861	9	2	—	22.22	—	—	—
Lawrence	38,825	12	2	—	25.00	—	—	—
Springfield	37,577	—	—	13.33	—	—	—	—
New Bedford	33,393	15	6	—	13.33	13.33	—	—
Somerville	29,992	11	1	—	36.36	—	—	—
Salem	28,084	9	—	24.21	—	—	—	—
Holyoke	27,894	13	11	—	—	—	—	22.12
Chelsea	25,709	9	3	—	33.33	—	—	—
Taunton	23,674	5	0	—	20.00	—	—	—
Haverhill	21,795	9	3	—	—	—	—	—
Gloucester	21,713	3	0	—	33.33	—	—	—
Brockton	20,783	1	0	—	—	—	—	—
Newton	19,759	3	0	—	33.33	—	—	—
Malden	16,407	4	1	16.66	25.00	—	—	—
Fitchburg	15,375	6	3	25.00	33.33	—	—	—
Waltham	14,609	4	0	—	50.00	—	—	—
Newburyport	13,716	—	—	—	—	—	—	—
Northampton	12,896	6	0	—	50.00	—	—	—

Deaths reported 2,274: under five years of age 1136; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 636, consumption 308, lung diseases 131, diarrhœal diseases 380, diphtheria and croup 122, measles 25, typhoid fever 25, scarlet fever 23, malarial fever 16, cerebro-spinal meningitis 12, whooping-cough 15, erysipelas eight, puerperal fever eight. From typhoid fever, Philadelphia 12, New York four, Pittsburgh three, Lowell two, Baltimore, New Orleans, Nashville, and Charleston one each. From scarlet fever New York 12, Philadelphia four, Baltimore three, Boston two, Pittsburgh and Nashville one each. From whooping-cough, Philadelphia five, New York three, Baltimore two, Richmond, Boston, New Orleans, District of Columbia and Nashville one each. From cerebro-spinal meningitis, New York five, Lowell two, Philadelphia, Boston, District of Columbia, Milwaukee and Holyoke, one each. From malarial fever, New York nine, New Orleans three, Baltimore two, Philadelphia and Richmond one each. From puerperal fever, Philadelphia, Pittsburgh and Milwaukee two each, District of Columbia one. From erysipelas, Philadelphia two, New York, New Orleans, District of Columbia, Pittsburgh and Milwaukee one each. From small-pox (New York) two.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,089, for the week ending June 11th, the death-rate was 18.4. Deaths reported 3,340; infants under one year of age 789; acute diseases of the respiratory organs (London,) 259, measles 227, whooping-cough 127, scarlet fever 55, fever 31, diarrhœa 29, diphtheria 17.

The death-rates ranged from 11.3 in Leicester to 29.4 in Birkenhead; Birmingham 16.6; Bradford 17.4; Derby 13.9; Hull 17.8; Leeds 18.9; London 17.5; Manchester 23.9; Newcastle-on-Tyne 26.6; Nottingham 15.1; Sheffield 21.0; Sunderland 19.7.

In Edinburgh 21.0; Glasgow 22.6; Dublin 31.2.

The meteorological record for the week ending June 25, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, June 25, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...19	29.77	66.0	78.0	57.0	54.0	36.0	84.0	58.0	W.	S.	S.W.	10	14	10	C.	F.	O.		
Monday, ..20	29.93	62.0	74.0	57.0	85.0	88.0	100.0	91.0	S.W.	E.	E.	9	16	8	C.	C.	G.		
Tuesday,..21	29.95	59.0	64.0	57.0	100.0	94.0	100.0	98.0	E.	E.	S.E.	12	13	5	G.	O.	R.	4	†T
Wednes.,..22	29.81	68.0	76.0	58.0	96.0	83.0	94.0	91.0	S.W.	S.E.	S.	2	6	10	G.	O.	R.	6	11
Thursday, 23	29.88	70.0	74.0	67.0	89.0	87.0	92.0	89.0	S.	S.	S.	19	14	11	O.	O.	R.	12	41
Friday, ...24	29.91	73.0	83.0	66.0	93.0	44.0	76.0	71.0	S.	W.	S.W.	14	14	14	O.	O.	O.	3	38
Saturday,. 25	30.14	69.0	76.0	64.0	62.0	41.0	89.0	64.0	N.W.	N.W.	N.	8	12	4	O.	F.	C.		
Mean, the Week.	29.913	66.7	75.0	61.0				78.9										25	90

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING JUNE 25, 1887.

GUITERAS, JOHN, passed assistant surgeon. Detailed for temporary duty at Key West, Fla., June 23, 1887.

WASDIN, EUGENE, passed assistant surgeon. Relieved from duty at Marine Hospital, New York, N. Y., ordered to Marine Hospital, Chicago, Ill., June 23, 1887.

NORMAN, SEATON, assistant surgeon. To proceed to Charleston, S. C., for temporary duty, June 23, 1887.

HEATH, F. C., assistant surgeon. Relieved from duty at Chicago, Ill., June 23, 1887.

APPOINTMENTS.

Dr. C. B. Porter has been appointed Professor of Clinical Surgery, and Dr. J. C. Warren Associate Professor of Surgery in Harvard University. Dr. H. L. Burrell has also been appointed Demonstrator of Bandaging and Apparatus, and Dr. G. H. Monks Instructor in Surgical Pathology.

DEATHS.

Died at Belmont, N. H., Charles Warren Hackett, M.D., M.M.S.S., of Maplewood, aged thirty-five.

Died in Middleboro', Mass., June 28, 1887, Ebenezer Wade Drake, M.D., M.M.S.S., aged sixty-nine years.

BOOKS AND PAMPHLETS RECEIVED.

The Fourteenth Annual Report of the Board of Health of the City of New Haven. 1886.

The Uses of Adhesive Plaster in Orthopædic Surgery. By A. B. Judson, M.D. 1887. (Reprint.)

Announcement of the Western Pennsylvania Medical College, Pittsburgh, Pa. Sessions of 1887–8.

Dr. Didama's Introduction to a Discussion on Tubercular Consumption. Syracuse, N. Y. 1886.

Announcement of the Oliver Wendell Holmes Hospital. Hudson, St. Croix County, Wisconsin, 1887.

Transactions of the American Ophthalmological Society. Twenty-Second Annual Meeting. New London, Conn., 1886.

Maternal Impressions. Discussion on Dr. Barker's Essay. By Samuel C. Busey, M.D., Washington, D. C. 1886. (Reprint.)

Woman's Medical College of the New York Infirmary. Nineteenth Annual Catalogue and Announcement. New York, 1887.

University of the City of New York. Medical Department. Forty-seventh Annual Announcement of Lectures and Catalogue. Session 1887–88.

Catalogue of the Albany Medical College, Medical Department of Union University. Fifty-sixth Session, 1886–87, and Announcement for Session, 1887–88.

Abstract from the Transactions of the Medical Society of the State of New York, for the Year 1887. Merritt H. Cash Prize Essay; the Physiological Conditions and Sanitary Requirements of School-Houses and School-Life. By A. N. Bell, A.M., M.D., Brooklyn, N. Y. 1887.

Forty-first Annual Announcement of Starling Medical College, together with Catalogue and Order of College and Hospital Exercises for the Session of 1887–8. Columbus, Ohio.

De la Jugulation de la Fièvre Typhoide au Moyen de la Quinine et des Bains Tiedes. Par Le Docteur G. Pécholier, Professeur Agrégé a la Faculté de Medecine de Montpelier. 1887.

Report of the Board of Censors to the Maine Medical Association at its Thirty-Fifth Annual Meeting held at Portland, June 14, 1887; containing the Committee's Report on the Status of the Registration Act.

The Causes and Prevention of Infantile Diarrhœal Diseases. By F. R. Campbell, A.M., M.D., Lecturer on Hygiene, Niagara University, Sanitary Inspector of the Board of Health, Buffalo, N. Y. Buffalo, 1887. (Reprint.)

Practical Urine Testing: a Guide to Office and Bedside Urine Analysis for Physicians and Students. By Charles Godwin Jennings, M.D., Professor of Chemistry and of Diseases of Children, Detroit College of Medicine, etc. Detroit: D. O. Haynes & Co. 1887.

A Manual of Treatment by Massage and Methodical Muscle Exercise. By Joseph Schreiber, M.D., Member of K. K. Gesellschaft der Aerzte of Vienna, etc. Translated with the Author's Permission by Walter Mendelson, M.D., of New York. Philadelphia: Lea Brothers & Co. 1887.

Treatment of Disease in Children, including the outlines of diagnosis and the chief pathological differences between children and adults, by Angel Money, M.D., M.R.C.P., assistant physician to the hospital for sick children, Great Ormande St., etc. Philadelphia. P. Blakiston Son & Co., 1887.

Statistique des Vaccinations Pratiquées avec la Culture Attenuée Du Microbe de la Fièvre Jaune de Septembre, 1885, à Septembre, 1886. Par le Dr. Domingos Freire, Professeur de Chimie organique et biologique à la Faculté de Médecine de Rio-de-Janeiro, etc. Paris Libraire J. B. Baillière et Fils, 1887.

What to do in Cases of Poisoning. By Wm. Murrell, M.D., F.R.C.P., Lecturer on Pharmacology and Therapeutics in the Westminster Hospital, etc. First American from Fifth English Edition. Edited by Frank Woodbury, M.D. Published by the Medical Register Co. Philadelphia, 1887.

Practical Lessons in Nursing. Outlines for the Management of Diet: or the Regulation of Food to the Requirements of Health and the Treatment of Disease. By Edward Turvis Bruen, Assistant Professor of Physical Diagnosis, University of Pennsylvania, etc. Philadelphia: J. B. Lippincott Co. 1887.

Resident Students of the Charity Hospital of New Orleans, Louisiana. Establishment of a Medical Library, by the Louisiana State Medical Society. By Joseph Jones, M.D., President of the Louisiana State Medical Society, Visiting Physician of the Charity Hospital of New Orleans, etc. 1887. (Reprint.)

Anatomische Untersuchungen am Menschlichen Rectum und Eine Neue Methode der Mastdarminspection von Walter J. Otis, M.D., aus Boston. Erster Theil; die Sacculi des Rectum. Mit einem Holzschnitt im Text und Acht Tafeln. (Aus dem anatomischen Institut der Universität. Leipzig: Veit & Co. 1887.

A New Explanation of the Renal Troubles, Eclampsia, and other Pathological Phenomena of Pregnancy and Labor. By A. F. A. King, M.D., Professor of Obstetrics, etc., in the Medical Department of Columbia University, Washington, D.C., and in the University of Vermont; President of the Washington Obstetrical and Gynecological Society, etc. New York: Wm. Wood & Co. 1887. (Reprint.)

Original Articles.

ALCOHOL AGAIN: A CONSIDERATION OF RECENT MISSTATEMENTS OF ITS PHYSIOLOGICAL ACTION.[1]

BY JOSEPH W. WARREN, M.D.,
Assistant in Physiology in the Medical School of Harvard University.

A substance which is disposed of as completely as is alcohol by the human body, might be expected to exercise some influence on the nutrition. A large number of cases are cited by Anstie (in his "Stimulants and Narcotics") all showing that a human body well supplied with alcohol may get along very well or fairly well without the ordinary quantity of food. The clinical experience with alcohol, under conditions where it could not merely act by aiding the patient to absorb more food, also suggests that it may, at least at times and to some extent, take the place of acknowledged foods. In much of the discussion on this point, it seems but too often overlooked that alcohol, as a non-nitrogenous substance, could not be expected ordinarily to actually take the place of all and every food for a long time. It does not surprise us that men do not get on very well when fed on fat or sugar only, why should we expect them necessarily to thrive on alcohol? It is, however, a matter of common experience that people do thrive and keep perfectly well who use a moderate amount of alcohol in the form of various beverages. Some of these contain other substances of unquestioned nutritive value. The fact must not be overlooked that there are millions of people in this country and millions in Europe who constantly take small quantities of alcohol in some form and who are absolutely in no way the worse for so doing. It will not do to point to the drunkards, whether of the fat and lazy type or not; it will not do to urge that organs degenerate as a result of alcoholic excesses; these things merely have a value in enabling us to draw some line as to what is reasonable and prudent, but they do not demonstrate the injuriousness of the substance properly used. It is easy to find instances where acknowledged foods are abused. All about us are men who undoubtedly eat too much, or do too little, or both. There is good reason to believe that many persons drink too much water, while the abuse of coffee and tea is very frequently observed. It would be easy to multiply the instances where the good things of life, which are also its necessities, are abused, but no one ventures to infer that these things are therefore harmful. The degenerations of phosphorus poisoning are never advanced as an objection to the acid phosphates of Tom, Dick, and Harry, nor as showing the harmfulness of such phosphorus acid as is in accepted and traditional foods.

The experimental determination of the position of alcohol as a food, has hitherto met with great difficulties. Its disappearance suggests that it *may* play a part in the economy of the body in one of several ways. If it be burned up in the body, that is, completely oxidised to carbonic acid and water, as seems highly probable, we should not only have the development of a great amount of force, but we should also expect to find the products of this combustion, and these have not as yet been satisfactorily made out. There are, however, a number of good reasons for this, and it by no means follows that they do not exist.[31]

As there is no nitrogen in alcohol itself, we may not expect any direct effect from the oxidation of this substance on the nitrogenous excretion. Indirectly, the influence might be either to increase or to diminish it. Alcohol might work unfavorably on the metabolism, causing more extensive tissue change and consequently an augmentation of the nitrogen output; or it might for some reason, while increasing the destruction, hinder the outflow, but this view is exceedingly improbable, and has no good foundation. On the other hand, the combustion of the alcohol may take the place of the oxidation of the nitrogenous substances (just as it may be easier at times to burn the wood a household happens to have at hand and spare the supply of coal); this would lead to a diminished excretion of nitrogen. Simple as the problem appears, the solution has not yet been reached. A large number of observers report a distinct diminution of the nitrogen output. Even Dr. Davis admits this, but he interprets it ingeniously as a retardation of "those molecular or atomic changes which constitute nutrition, disintegration and secretion, and on which the phenomena of life depend," and also as a retardation of the "elimination of waste matter." This, in very plain English, is much the same as saying that a family which happens to use a gas stove for a few days, ought to have as full an ash barrel as when using the ordinary range, otherwise they fail to eliminate the waste matter of the coals which they have not as yet burned! Although personally, I am inclined to think that there really is a diminution of the nitrogen outgo, I do not think that the evidence at our disposal fully proves it. None of the older experiments have much value now. We have learned, within a comparatively few years that to understand the nitrogenous metabolism the body experimented upon must be brought into nitrogenous equilibrium before any drug or other influence can be tested. Before studying a drug we must have been able to find all the nitrogen that goes into the body in the urine and in the fæces, otherwise no fair inference can be drawn, because the body may be adding to its own albuminous material. And when we have this equilibrium we must still know not merely the nitrogen of the urine but also that of the fæces. Evidently it is not enough to ensure a regular and measured diet, from which an unvarying import of nitrogen is inferred. All this was unknown to the older experimenters, and very much limits the value of their work, however excellent it was in its own day. It has also often not been duly considered in much work of a more recent date.

It is for these reasons, (and I think they are not finical), that we are not justified in accepting as conclusive, many experiments commonly referred to as showing a reduction of the metabolism with reference to nitrogen, under the influence of alcohol, that is, a saving and storing up of albuminous material. To these belong the elaborate work of Böcker[32] (who

[1] Concluded from page 6.

[31] Thompson (Is Alcohol a Food? Lancet, 1885, I, 743), has suggested an ingenious plan to determine whether alcohol can act as a food. He argues that alcohol ought to appear in the urine more readily when the body is fully supplied with food than when there is a deficiency (as with little food and much exercise), which it may make up. A couple of experiments seem to corroborate this view, but evidently there are too many sources of error in the method there employed.

[32] Böcker: Beitrage zur Heilkunde, 1849, vol. I, 240. It is, of course, easy to sneer, now, at work of this description which in its day and generation was unquestionably on a high level. I have no desire to speak of such investigations otherwise than with respect. What ought to meet with vigorous opposition is the fact that a

seems to demonstrate a great falling off in the elimination of nitrogen, but with absolutely no control over the amount of nitrogen entering the body), that of Duchek, the investigations of Hammond[33] (with an apparent lessening of the nitrogenous excretion in the urine of about thirteen per cent.), those in the first three articles by Parkes noted above, (with practically no change in the urea outflow), and the more recent researches of Riess[34] (a lessening of fifteen to twenty-two per cent.).

In fact, almost the only experiments in which the nitrogenous equilibrium seems to have been carefully established are those of I. Munk[35] on dogs. Some earlier ones made by Fokker, and which appear to have been good (showing a diminution of from six to twenty per cent.) are, unfortunately, not easily accessible to me now. Munk found that moderate doses of alcohol diminished the nitrogen of the urine from six to seven per cent., while larger doses (not lethal, but producing much depression and insensibility) caused an increase in the nitrogenous output of from four to ten per cent. An independent confirmation of these results would be very desirable. It may be that alcohol can protect the consumption of other substances to some extent, but that large amounts either injure living tissues, or cause a destruction of albuminous material not yet worked into the living protoplasmatic network of the body.[36]

The metabolism of the body is not measured by the excretion of nitrogen alone, but also by the amount of carbonic acid sent out. Many writers are disposed, nowadays, to attribute the latter to the oxidation of fat and carbo-hydrates, and to speak of the former as due to the transformation of albuminous substances. Such a view I believe to be exceedingly incomplete and unsatisfactory, but it would lead too far to consider that question now. Whatever the origin of the substances may be, there is no question that their formation goes on in such a way that the carbonic acid may be considered to be, in general, quite independent of the urea.

At the first glance, it would appear to be simple enough to determine this carbonic acid excretion, and to draw inferences from it. Indeed, there are numerous older observations where such a course was pursued. It has turned out, however, to be of prime importance to know the amount of oxygen taken into the body, as well as the amount of carbonic dioxide excreted.[37]

A body like alcohol, burning readily and completely to carbonic acid and water, might be expected to demonstrate its combustion by affecting the CO_2 excretion, and many observers have sought to determine this experimentally. For various reasons, no satisfactory unanimity of results has as yet been attained. The older observations are often inexact in method, although they generally show a diminution in the CO_2 output. To these belong the experiments of Prout,[38] Fyfe,[39] Vierordt,[40] Böcker, Davis, Hammond, and others, in which there was absolutely no determination of the oxygen, and the collection of the carbonic acid was made in such a way, or for such periods, as seem too little exact and sufficient. The ingenious and elaborate researches of Smith[41] also fail to give the information we want concerning the amount of oxygen taken in. For the carbonic acid excretion, it was found that it is increased by spirits of wine and most beverages containing alcohol, but diminished by brandy, gin, and some specimens of whiskey.

Berg,[42] who also found the absolute amount of carbonic acid increased after alcohol, does not appear to have made any determination of the oxygen.

Among the more recent investigators with exacter methods, Boeck and Bauer[43] found that alcohol in small doses diminished the O_2-inflow and the CO_2-excretion (about 20 per cent.) while larger quantities (without narcosis) caused an increase as regards both substances of 12–34 per cent. Only two experiments (dogs) are reported, but the authors say they obtained similar results on other dogs and cats. In some cases there appears to have been distinct intestinal disturbance, and this would probably affect the CO_2 production.[44] In one of the two cases the increase of oxida-

teacher should cite such experimental work of an older date as valuable, and yet draw no distinction between it and that done in recent years with the most carefully elaborated methods, or even neglect to mention the latter altogether.

[33] Hammond: The physiological effects of alcohol and tobacco upon the human system. Reprint from the American Journal of Medical Sciences for 1856, in his Physiological Memoirs, 1863, p. 43. Hammond's urea determinations have not met with universal acceptance. Cf. Speck: Arch. f. exp. Path. u. Pharm., xv, 95.

[34] Riess: Ueber den Einfluss des Alkohols auf den Stoffwechsel des Menschen. Zeitschr. f. klin. Med., 1881, vol. II p. 1. Binz (Vorlesungen p. 361, and again quite recently in the Centralblatt für klin. Med. for May 7, 1887.) seems to consider Riess's results satisfactory. I must observe, however, that the men examined were convalescents (from rheumatism and subacute myelitis), that although they were placed upon a carefully measured diet the nitrogen of this was not determined, and that the men were admittedly not in nitrogenous equilibrium.

[35] I. Munk. Ueber d. Einfluss des Alkohols u. des Eisens auf den Eiweisszerfall. Verhandl. d. Berliner physiol. Ges., 3 January, 1879. Archiv f. (Anat. u.) Physiologie, 1879, 163. See, also, Munk-Uffelmann. Die Ernährung des gesunden und kranken Menschen, 1887, p. 60.

[36] The presumption that alcohol lessens the amount of oxidation in the body, in the sense of saving material, not of retaining "effete, waste substances," is strengthened by some interesting observations on the conversion of benzol to phenol and related products in the body. Nencki and Sieber (*a*) had shown that, normally, a pretty constant relation existed between the amount of benzol (C_6H_6) introduced into the body and the phenol (C_6H_5·OH) found in the urine. Then Simanowsky and Schoumoff (*b*) found that alcohol lessened this transformation for rabbits, dogs, and for man.

(*a*) Nencki and Sieber. Ueber eine neue Methode die physiologische Oxydation zu messen und über den Einfluss der Gifte und Krankheiten auf dieselbe. Pflüger's Archiv, 1883, xxxi, 319.

(*b*) Simanowsky and Schoumoff. Ueber den Einfluss des Alcohols und des Morphiums auf die physiologische Oxydation. Pflüger's Archiv, 1884, xxxiii, 251.

[37] The relation of these, $\frac{CO_2}{O_2}$, is now commonly called the respiratory quotient; it expresses the amount of oxygen returned as carbonic acid, any deficit being used presumably for other oxidations.

[38] It is an entertaining illustration of the danger that lurks in citations, that Dr. Davis speaks of Prout as overthrowing, "by direct experiment," the theory of Liebig after it was proposed, Prout, as a matter of fact, having made his investigations when Leibig was not yet ten years old. Dr. Davis (in common with many others, for example, Wolters) has been misled by a quotation in the second volume of the London Lancet (1843, p. 17). Prout's articles — "Observations on the Quantity of Carbonic Acid Gas emitted from the Lungs during Respiration, at different Times, and under different Circumstances" — are in Thomson's "Annals of Philosophy," 1813-14, Vol. II, p. 328, and Vol. IV, p. 331. Interesting as his work is, it has, of course, now only historical value. Any deductions which modern writers may wish to make from it must be modified also by Prout's statement (p. 336 of the second article) "that they (the numbers in his paper) do not represent the measures of the quantity of carbonic acid emitted *in* any given time from the lungs, but the measures of the power or capability of the lungs, *at* any given time, to form or throw off carbonic acid. What I mean to say is this: that the *power* or *capability* of the lungs for forming and throwing off carbonic acid is *greater* at noon, etc., and not that a greater quantity of it is *actually thrown off* at that time than at any other. A greater quantity will, indeed, be thrown off, cæteris paribus, on an equal number of similar respirations being made in the same given time; but whether this be really the case or not, I cannot pretend to determine."

[39] Fyfe in an Edinburgh dissertation, 1814, quoted by Prout.

[40] See Wagner's Handwörterbuch d. Physiologie, II, 884.

[41] E. Smith. Experiments of the action of food upon the respiration. Brit. Med. Journal, 1859, 254. Practical deductions from an experimental inquiry into the influence of food. Ibid, p. 433. His paper in the Proc. Roy. Soc., 1859, p. 638, is only an abstract.

[42] Berg. Ueber den Einfluss der Zahl und Tiefe der Athembewegungen auf die Ausscheidung der Kohlensäure durch die Lungen. Disch. Arch. f. klin. Med., 1869, vi, 291.

[43] H. v. Boeck and J. Bauer. Ueber den Einfluss einiger Arzneimittel auf den Gasaustausch bei Thieren. Zeitsch. f. Biol, 1874, x, 336.

[44] Zuntz and v. Mering (Pflüger Archiv, 1883, xxxii, 173) have shown that the work of the digestive act (and apparently any irritation of the tract) causes an increase in the amount of oxygen taken into the body.

tion is not convincing, for a change nearly as great occurs apart from any alcoholic influence.

In 1883 Henrijean published a preliminary communication [45] concerning experiments made on himself in Fredericq's laboratory at Liége, in which he found that the oxygen taken into the body was, on an average 19 per cent. greater in amount after taking alcohol than in hunger, and the increase after taking a moderate breakfast was about 23 per cent. The increase under alcohol seems to continue too long to be due to the action on the intestines; in fact the average for the later determinations (80–180 minutes after taking) is rather higher than for the earlier ones. No determination of the carbonic acid was made.

At about the same time Wolfers [46] published some experiments which he had made under Zuntz's guidance a couple of years before. He used rabbits which were sunk in a bath at a constant temperature. The alcohol was introduced sometimes through a vein, in some experiments directly into the stomach. The doses were large although narcosis does not seem to have been usually produced, nor considerable muscular movement avoided. Wolfers found that the consumption of oxygen increased under alcohol; the output of carbonic acid was also increased, but less extensively; the respiratory quotient was usually lowered. From this the inference is drawn that the alcohol is partly oxidized in the body, but that no lessening of the oxidation processes may be attributed to it. But even if more oxygen be consumed it does not follow that the increased oxidation may not be that of the alcohol, and at the same time include a protection of the tissues.

Against these experiments it has been argued that the animals were rabbits and fastened down in an unfavorable manner. On the other hand Zuntz has urged that perhaps the rabbit from living so largely on carbo-hydrates may be especially adapted to show the influence of alcohol in the respiration.

We have also incidental information in a research by Rumpf,[47] who found that in alcohol narcosis the temperature of guinea pigs is much lowered, and its regulation disturbed, and the oxydation as represented in the oxygen consumption greatly reduced. Obviously the conditions were such as to permit no fair inferences concerning the physiological action of alcohol.

Still more recent are experiments in this direction made by Bodländer, Zuntz (with Berdez), and Geppert.

Bodländer [48] worked with a new apparatus, which has the advantage of leaving the animal perfectly free in a small chamber and undisturbed by any operation for the introduction of breathing tubes and the like. Bodländer found the oxygen consumption reduced for two dogs, 12 per cent. and 19 per cent., the CO_2-excretion 11 per cent. and 19 per cent., the same changes for a rabbit being only 3 per cent. and 8 per cent. respectively. There is, then, a small lessening of the respiratory quotient for the rabbit and no such change for the dogs. But as Zuntz has pointed out, in the article mentioned below, Bodländer's dogs had a very high oxygen consumption in the "normal" experiments which leads to the inference that they were more restless than the experimenter supposed (and any muscular action is a most potent factor in the O_2-consumption) and that the influence of the alcohol was to lessen their activity, and consequently to reduce the respiration. Zuntz also objects to the imperfect ventilation of Bodländer's apparatus, and thinks that the lowering of the temperature of the animals would also tend to lower the oxygen consumption, it having been shown by Pflüger and Velten that a reduction of 1° C. lessens this about 5 per cent.

In Zuntz's experiments with Berdez [49] the latter breathed through a carefully fitted tube with valves, the nose being closed. It was thus possible to ensure perfect muscular quiet and examine the course of the respiratory change for twenty minutes at a time. The outcome of the very few experiments which could be made was that "none of the important factors of the respiratory process was lowered." The oxygen inflow rose about 3.5 per cent., the carbonic acid outflow increasing also about 4.5 per cent. The smallness of these figures as compared with those of Wolters is attributed to the small amount of alcohol which Berdez was able to take without causing muscular unrest.

The latest and in some respects the most interesting experiments are those which Geppert [50] has published, while I was collecting the material for this paper. Geppert has a new and very ingenious apparatus for making respiration experiments on man. This renders it possible to exclude many disturbing factors which are met with in experiments on animals and are there often beyond the control of the experimenter. Excluding all cases where the alcohol caused muscular disturbance or produced sleep (since both conditions have nothing to do with the alcohol effect on respiration for itself) it was found in a number of experiments on four men that "the doses of alcohol employed had no important effect on the oxygen consumption." The carbonic acid excretion was not increased; it was either constant or somewhat lessened. In fact the respiratory quotient appears to me to have been in every case slightly lowered. This may be interpreted to mean that the oxidation of the alcohol has protected some other substance from oxidation and lessened the amount of oxygen which appears in the expired air as CO_2. When carbo-hydrates are consumed the oxygen of the CO_2 sent out is equal to the oxygen taken in for the combustion, its respiratory quotient is said to approach 1.00; the combustion of alcohol on the other hand returns in the form of carbonic acid, but two-thirds of the oxygen taken in, it has a respiratory quotient of 0.66.

It will thus be seen that we are not as yet in a position to make very positive assertions concerning the influence of alcohol on the tissue changes as measured by the respiratory gas exchange or in terms of nitrogen excretion. An ingenious advocate could draw arguments for either side from the experimental evidence at our disposal. But we should be extremely cautious in inferring the physiological influence from those very common results of unwise indulgence in alcoholic beverages, and which are clearly pathological. The imperfect nourishment of many drinkers is explicable by the chronic disturbances of the intestinal

[45] Henrijean. Sur le rôle de l'alcool dans la nutrition. Bull. de l'académie royale de Belgique, 3me. sér. v. 1883.
[46] J. Wolfers. Untersuchungen über den Einfluss einiger stickstoff freier Substanzen, speciell des Alkohols, auf den thierischen Stoffwechsel. Pflüger's Archiv, 1883, xxxii, 222.
[47] Rumpf. Untersuchungen über die Wärmeregulation in der Narkose und im Schlaf. Pflüger's Archiv, 1884, xxxiii, 538.
[48] Bodländer. Einfluss des Weingeistes auf den Gaswechsel Ztsch. f. klin. Med. 1886, xi, 548.
[49] Zuntz. Beitrag zur Kenntniss d. Einwirkung des Weingeistes auf den Respirationsprocess des Menschen. Reprint from the Fortschritte d. Med, 1887, p. 1.
[50] Geppert. Die Einwirkung des Alkohols auf den Gaswechsel des Menschen. Archiv f. exp. Path. u. Pharm., 1887, xxii, 367.

tract with the attendant upsetting of digestion and absorption. This, too, is often enough further complicated by a real insufficiency of food either in quality or quantity. The excessive formation of fat with accompanying degenerations often attributed to alcohol is certainly not always due to its moderate use alone (although even this, in some persons favors obesity); unwelcome or dangerous fatness is often enough met with where there is a complete disuse of alcohol.

Concerning the action of alcohol on the muscles, exceedingly little is really known. Nearly all the experimental researches merely show that quite concentrated solutions of alcohol kill muscular tissue, cause rigidity or hasten it, and precipitate or coagulate the albuminous substances. This is not only what might be expected, but also demonstrates actually nothing concerning the behavior of such quantities as would reasonably and probably reach the muscles. It has, for this purpose, no more value than the platform trick of coagulating egg albumin in a tumbler by spirits of wine, which, I am told, some audiences have found to be very impressive.[51] There is, however, some reason to believe that the use of alcohol (certainly when given in rather large doses to healthy persons) does not enable a man to do more hard work with his muscles, at least, for any length of time.[52] This effect is probably complicated by the influence of alcohol on the nervous system.

One of the most delicate reagents which we have for alcohol, or rather, for alcoholic beverages, is the human central nervous system. As a noted anatomist used to say of the external ear, this can be best studied on one's neighbors. It seems hardly necessary to point out that the effect first manifests itself in the cerebral centres, and that this, for a small amount, is a stimulation.

"It is very difficult to say how far the stimulating action depends on the increased circulation through the nervous centres only, or how much of it may be due to the action of the alcohol on the nervous structures themselves. The symptoms of intoxication must, however, be referred to a paralyzing action of the alcohol on the nerve-centres, for, although as intoxication progresses, a diminution in the activity of the cerebral circulation occurs, and the well-nourished brain becomes anæmic, this alone is insufficient to account for the effects we observe. The first of these are weakening of the mental faculties and of the power of coördination. The higher faculties seem to go first, and a man's judgment becomes impaired, while his memory and imagination are still more lively than usual. Then these faculties diminish, and the emotions become more prominent, so that a man is either ready to swear eternal friendship all round, or becomes as anxious for a fight as an Irishman at Donnybrook; is gay, mirthful, and hilarious, or subdued and lachrymose, melting into a flood of tears without any apparent cause. At the same time, the power of coördination becomes impaired. This is most evident in the tongue and legs, the speech becoming thick and indistinct, so that the pronunciation of the words 'British Constitution' becomes next to an impossibility, and locomotion becomes staggering and uncertain. Although loss of the mental faculties and loss of coördination power generally go hand-in-hand, yet either of them may occur a good while before the other, so that persons who seem stupefied by drink may rise and walk with the utmost readiness, while others, who seem perfectly unaffected while sitting, and can discourse on any subject with freedom, will find great difficulty in steering their way from the table to the door." (Brunton.)

Although the course of the influence is clearly perceptible, such attempts as have been made to define or measure it experimentally have not been remarkably successful. The observations of Exner,[53] Dietl and Von Vintschgau,[54] and Kraepelin,[55] seemed to show that the reaction time (that is, the time required to perceive an appointed signal, and make a simple predetermined signal in reply) may be quickened by alcohol or alcoholic beverages, but that there follows ere long a period of slower replies, and that such a slowing occurs rapidly from a large dose.

Some experiments of my own, which will shortly be published, appear to demonstrate that the influence of alcohol in this respect is even more varied than has been supposed, and that no final conclusions can be drawn at present. I can see no valid reason for supposing that alcohol does not quicken mental activity (where there is any to be quickened). The stimulating influence of small quantities of alcoholic beverages is a matter of too common experience among brain-workers to permit a wholesale denial of it. Obviously, this results from a variety of causes, and is subject to enormous individual variations and limitations, and the bad effect of large quantities is beyond question. It will not do to urge, as is usually done, that mankind was mistaken as to the influence of alcohol on the body-temperature, and so must be about the effect on the brain. A man's knowledge of his temperature is exceedingly limited, quite subjective, affected by many influences, and altogether uncertain; he merely knows that he feels warmed. But if we test the temperature by a thermometer, why may we not judge somewhat of the mental effect by the work which is done under such circumstances? Looked at in this way, there is experience enough to warrant us in saying that very often men really do think better and write better with moderate alcoholic stimulation than without it. It does not in the least follow from this that constant stimulation for such a purpose is good or permissible any more than it does that a man should always run when he can just as well walk, although progression would thus be more rapid for a time.[56]

[51] Engelmann (Ueber die Flimmerbewegung, 1868, p. 58, and in Hermann's Handbuch der Physiologie, I, 402) has shown that small doses of alcohol increase the frequency and energy of ciliary motion, while large doses bring it to a standstill. Dogiel, too, asserts that the force of muscular contraction is similarly affected. His paper (Pflüger's Arch., viii, 606) is, however, but an abstract so brief and aphoristic, that it affords no chance of judging of its true value.

[52] Parkes, in the first paper quoted above, tested the muscular power of his soldier (probably with a dynamometer), and found that no change was produced by alcohol. In one of the later series of experiments, where the soldier labored hard with the spade, he worked (in his opinion) very much less well with brandy than without it, but the quantities which led to this result were considerable. This view is also favored by his paper in the Lancet (1874, ii, 238, 263, "Report on the Issue of a Spirit Ration during the march to Coomassie,") which presents evidence that the use of alcohol does not, on the whole, enable soldiers to endure more fatigue, except when taken *after* the work of the day is done. But even here, the evidence is not altogether convincing to those who are not professional temperance agitators.

[53] Exner. Pflüger's Archiv, 1873, vii., 628.

[54] Dietl und Von Vintschgau. Pflüger's Archiv, 1878, xvi, 316.

[55] Kraepelin. Wundt's Philosophische Studien, 1881-83, I, 573.

[56] As to any special action on nerves and nerve-centres, there may be added the declaration of Dogiel that the irritability of motor and of sensory nerves is, at first, increased and then diminished, and that the reflexes of beheaded frogs are, at first, quickened and then slowed. On the other hand, Meihuizen (Pflüger's Archiv, 1873, vii, 217) found that these reflexes were much slowed at first, and for a considerable period, being followed by a considerable quickening, but he got these results with what must be considered a large dose, and got less constant ones when the quantity of alcohol was only half as great. Kremer's observation (Pflüger's Archiv, 1884, xxxiii., 288) that

But I am wandering too much from my original purpose, yet I trust that the effort not merely to examine some of the older experimental foundations for an opinion about alcohol, but also to inquire what the most recent work has done to strengthen or to weaken them may not be altogether unwelcome to any reader who may chance to have followed me thus far. I hope that I have made it clear that the statements of Prof. N. S. Davis, so far as they have to do with the physiological action of alcohol, are not in accord with the knowledge available when the tract was printed, and are also not supported by the more recent investigations. The points which I should like to insist upon, in recapitulation, are these:

(1) That alcohol enters the animal body readily, and is there very completely disposed of.

(2) That the oxidation of such a substance may fairly be expected to develop force, and that although we cannot as yet say just how this takes place and just what it accomplishes, we have no right to deny that it does occur.

(3) Our knowledge, such as it is, of the influence of alcohol on the muscular and nervous structures of the body, on the function of digestion and absorption, on the heart and circulation, on the heat-production and regulation, on the tissue changes (the metabolism) of the body, and on the psychic functions, does not warrant us in saying that the really moderate use of alcohol is harmful, not to say dangerous, from the point of view of the physiologist.

But we are told, "Wine is a mocker, and whoso is deceived thereby is not wise." Well, there are a good many "mockers" nowadays. Beef tea is one of them. Various artificial foods and similar preparations belong to the same category. It is an exceedingly unfortunate thing, doubtless, to be deceived by these things, but I cannot help feeling that it is a much worse thing to be a deceiver concerning them. I have an impression that the same "wise man" has also urged men "to buy the truth and sell it not." There are times, perhaps, when it is well not to tell the whole truth, but I have yet to learn how the human race can be benefited, in the long run, by systematic deception and by the wholesale circulation of what is, to say the least, not true. I see no reason why alcohol should be made an exception to this principle.

I am, I trust, fully awake to the dangers of alcohol, to the harm which it has done in the past and continues to do in the present. If any one shall choose to find in this article a warrant for the indiscriminate and heedless use of alcoholic stimulants, the responsibility must rest with him. It is altogether foreign to my purpose to examine the wide field which a consideration of the evil alcohol may do, would open before us. There are some considerations, however, which may find a place here.

We must not forget that although alcoholic beverages may supply the place of food for healthy persons they can ordinarily do so only to a very limited extent. The exceptional cases are far too infrequent to afford the slightest warrant for substituting alcohol for accepted foods or for any portion of them, and such a course is almost absolutely certain to result in harm to the body. In this sense, there is probably rarely or never any *necessity* for the regular use of alcohol, even in a moderate degree. Therapeutically, there can be no question that many disturbances of function are favorably influenced by a reasonable use of alcohol, but even here, as good results may be frequently obtained by other means, always provided that the habit of taking medicine or considering one's self an invalid be not encouraged, which is for some people a much worse habit than a moderate indulgence in alcohol would be.

The chief reason why men all over the world take alcohol, is that they like its effects, that it makes life pleasanter, that it smooths the rough places. A few take it to drown their sorrows, to forget a trouble or a difficulty which it would doubtless be much better to meet bravely and overcome, if they could, but this is not the reason of its common use. Men like the cerebral stimulation, and the vast majority care for no further action from what they drink, and this majority can attain this effect without going further and without harm to themselves. I am well aware that very many, unfortunately, do not stop at this point. It is but too true that not merely one man's meat, but also one man's drink, is another man's poison, and some men should refrain from alcohol, just as some men should refrain from lobster, or mushrooms, or oysters, or salmon.

The temperance movement of the future, if at some time it shall have become a true temperance movement, as I yet hope it will, the temperance movement of the future will have to recognize that the field for its activity lies not in the dissemination of falsehood about what alcohol is and does, but in the control of its rational use and in the prevention of all abuse. Here is an immense and fruitful field, and were but half the energy consumed in tilling it, which has been spent in reckless denunciation and misrepresentation, the evils of intemperance would have been largely diminished. Intemperance is a terrible weed, but its roots will be found to be entangled amid many social problems of heredity, poor food, over-work, bad cooking and bad homes, all quite as important, if indeed not more important, than the question of alcohol. And as to alcohol itself, finally, there is much to do in the regulation of its quality. It has been demonstrated again and again that the harmfulness of alcoholic beverages is very commonly due to impurities which can be avoided or greatly reduced. The "wise man" in recording the ripe results of his great experience, but anticipated modern research in attributing woe, sorrow, contentions, wounds without cause, and redness of eyes, not merely to "those that tarry *long* at the wine" but also to "those that go to seek *mixed* wine."

The admixture of other so-called higher alcohols, besides the ethyl alcohol, which we have been considering in this paper, is a source of much danger. Experiments have shown thoroughly that the evil effects of ethyl alcohol in large quantities, are produced by the higher alcohols in far smaller doses. This is an interesting and very important part of the subject, but even a brief consideration of it would lead us too far.

alcohol lowers the sensibility of the skin for points, seems to rest upon one single experiment with sixty grammes of brandy.

— A physician writes to the *Medical Press*, "within the last five years, in a district embracing sixty square miles or so by the sea, I have noted the hour and the minute of no less than ninety-three demises in my own immediate practice, and every soul of them all has gone out with the tide, save four who died suddenly by fatal accident."

THE USE OF MEAT AS A REGULAR ARTICLE OF DIET IN THE NURSERY.[1]

BY CHARLES P. PUTNAM, M.D.

[THIS paper does not take into consideration the use of meat as a medicine for sick children, but is wholly confined to its use as an article of diet for children in health.]

Meat is usually given to children as a matter of routine as soon as they are able to eat it without indigestion, and the question whether it is a food suited to childhood has received no very careful consideration. Yet is seems to be generally recognized that meat has peculiar effects on the organism as compared with other kinds of food. The fact that meat has a well-established position in the diet of adults is not alone a convincing argument in favor of giving it to children, since there are other articles, such as tea and coffee which are generally believed to be good for adults, and yet almost as generally believed to be bad for children.

Dr. Clouston, of Edinburgh, says: "My experience is that children who have the most neurotic temperaments and diatheses and who show the greatest tendencies to instability of brain, are, as a rule, flesh-eaters, having a craving for animal food too often and in too great quantities. I have found, also, a large proportion of the adolescent insane had been flesh-eaters, consuming and having a craving for much animal food. My experience, too, is that it is in such boys that the habit of masturbation is most apt to be acquired, and when acquired, seems to produce such a fascination and a craving that it ruins the bodily and mental powers. I have seen a change of diet to milk, fish, and farinaceous food produce a marked improvement in regard to the nervous irritability of such children. And in regard to such children I most thoroughly agree with Dr. Keith, who in Edinburgh for many years has preached an anti flesh crusade in the bringing up of all children up to eight or ten years of age. I believe that by a proper diet and regimen, more than in any other way, we can fight against and counteract inherited neurotic tendencies in children, and tide them safely over the periods of puberty and adolescence."

My experience has not been drawn from any extended observation of such cases as Dr. Clouston describes, yet I can fully believe that his statement is a fair one. I have become convinced that children fed largely on meat are apt to have a capricious appetite, to suffer from indigestion, constipation, and also from diarrhœa, to be subject to catarrhs of the mucous membranes, and have an unstable nervous system and less resistive power in general.

As a rule the more children are allowed to take meat the more they want it, while the appetite for other kinds of food is apt to diminish.

In families where meat eating has been put off or given up for any considerable period, I have found the children to have more freedom from little and great ailments, and to be less inclined to colds and diarrhœa. In 1884 Dr. D. M. Cammann, of New York, wrote an article on "Milk Diet in Childhood."[2] After advocating milk as a food of great value, and quoting the above passage from Dr. Clouston he says: "During the past twenty-five years, in a large institution in this city, meat has been omitted from the dietary of children under eight years of age, and it must be admitted that this has been long enough to test fully the value of the diet adopted."

One of the reports of the Board says: "Past records of the institution furnish such ample proof of the value of milk and vegetable food, and the exclusion of meat from the dietary of children under eight years of age, that the medical board sees every reason to adhere for the future to the diet from which such good results have been reached in the past." He gives the dietary for the children under eight years of age, which consists of a great variety of cereals, vegetables, fruits and milk." Also of the number of deaths by years during the twenty-five years up to 1882, he reports that both the death-rate and the number of illnesses was much greater during the year 1865, when meat was added to the dietary. In a letter which he recently wrote to me he says:

"I have no new facts in addition to those mentioned in my article on milk diet, except that I have seen a number of children in private practice brought up on a diet from which meat has been omitted, until they were seven or eight years old, and the results have been favorable. I think the facts in that article speak for themselves very strongly. In the Orphan's Home a milk and vegetable diet has been tried now for twenty-five years. During all those years the death-rate has been remarkably small; gastro-intestinal troubles during the summer months have been rare. We often go through the summer without a single case of diarrhœa. This, in a large city, among 150 children, many of whom have inherited feeble constitutions from their parents, is a noteworthy fact. Then through the winter we never have many cases of bronchitis or other diseases of the lungs, and those that do have such trouble usually recover rapidly. Another fact well worth noticing is that during the year 1865, in which meat was added to the dietary, the death-rate was larger than in any previous or subsequent year, and that disturbances of the digestive organs were extremely prevalent. The literature of the subject is meagre, and I cannot refer you to any articles bearing on it, except those referred to in my paper. . . . A look at the rosy cheeks of the children would convince any one that it was possible, at least for them to be healthy without the use of meat."

But few medical writers have thought it worth while to give any arguments in favor of meat for children. It is taken for granted that meat is the proper food for every one, and that children are to have it as soon as their digestion will bear it, in any form. For example, Starr, in a book lately published on the "Diseases of the Digestive Organs in Infants and Children," simply says: "Children who have got their milk teeth may be fed a twelfthmonth, namely, up to the age of three and a half years, in the following way." His dietary contains a teacupful of beef-tea at eleven, a slice of underdone roast-beef or mutton, or a bit of roast chicken or turkey, minced as fine as possible, and potato moistened with gravy at twelve o'clock.

In this community the giving of meat seems to be on the increase. Nursing babies, whose age is still counted by months, sometimes receive a regular meal of beef-juice. Some children of two years and upwards have meat or meat extracts twice and three times a day. Certainly this is not a universal custom, but it is getting to be more and more common. The

[1] Read at the meeting of the Boston Society for Medical Observation, January 2, 1887.

[2] New York Medical Journal, March 29, 1884.

result seems to be an increasing craving for meats and other stimulating foods, and a dislike of bland foods. In many nurseries bread and milk is a forgotten mixture. Puddings, such as were the main food of children forty years ago, boiled or baked rice and sago, rennet pudding or slip, simple blanc mange, bird's nest, baked custard, and bread puddings are distasteful to many children of the present day, and often milk will not be taken unless it have a little tea or coffee in it.

Exactly what place meat holds in the nutrition different from milk, eggs, grains, and vegetables is perhaps not thoroughly understood. Certainly physiologists do not absolutely agree. The best authorities, so far as I know, say that its peculiar effects on the system are due to the abundance of the nitrogenous elements and to the presence of extractive matters which are not in themselves nutritious, but which may be called relishes, as they make other foods more tasty, and thereby more digestible. Thus Liebig's beef extract and some others are made from a liquid out of which all albumen has been precipitated. They are, therefore, not nutritious in the ordinary sense. Still they are valuable under certain circumstances, but might fairly be considered as drugs. Whether this theory satisfactorily accounts for the well-known effects of meat on the dog, whether it accounts for the condition of excitement which sometimes is observed when infants first get beef-juice, and for the craving for meat which is found in older children who have become accustomed to it, I am not prepared to say.

On the whole, the view of Roberts as given in his lectures on "Dietetics and Dyspepsia" seems to be a fair one. He classes meat with tea, coffee, and cocoa, and also with alcohol as among the stimulants. He calls those classes and races that use these articles in abundance "high fed," and says: "There are some very subtle and exceedingly curious relations between the quality of the food and the nutrition and vital habits of the body. They are profoundly difficult to understand, and yet are absolutely authentic and highly important. One would think that so long as an animal obtained his due quantity of proteids, carbohydrates, and fats, it did not matter much from what source they were obtained.

"But this is far from being the case. Experience has taught trainers that the vital habits and qualities of horses and dogs are considerably modified by the nature of their food.

"These differences are expressed in popular phrase by saying that the hunter and the coursing greyhound are 'high fed,' and the draught horses and sporting dog are 'low fed.' The same kind of distinction may be drawn in regard to the diet of different members of the human family; some are high fed and some are low fed. Speaking generally, it may be said that high feeding in the case of man, consists mainly in a liberal allowance of meat and in the systematic use of alcoholic beverages, and that low feeding consists in a diet which is mainly vegetarian and non-alcoholic.

"In drawing this contrast between high feeding and low feeding, the distinction has reference solely to the quality and not to the quantity of the food — to its comparative stimulating properties and concentration.

"If we compare, as best we may with our limited information, the general characteristics of the high fed and low fed classes and races, there is, I think, to be perceived a broad distinction between them. In regard to bodily strength and longevity the difference is inconsiderable, but in regard to mental qualities the distinction is marked. The high-fed classes and races display, on the whole, a richer vitality, more momentum and individuality of character, and a greater brain power, than their low-fed brethren; and they constitute the soil, or breeding ground, out of which eminent men chiefly arise. In calculating what may be termed the 'man value' of individuals, classes, or races, physical qualities count for relatively little. One man may be twice as strong, or twice as big, or possess twice as much muscular endurance, as another; but the difference of value scarcely goes beyond, and rarely even reaches this proportion. But the possible difference between the mental capacity of one man and another is immense, almost incalculable. If you try to assess and to compare the value or capacity of a man of eminence — whether it be eminence in art, literature, science, statesmanship, commercial enterprise, colonizing aptitude, military command, or any other outcome of brain power — with the value and capacity of an average man, you perceive at once that the proportion is not as two to one, but as ten or twenty to one, or even as a hundred or more to one.

"With regard to infants and children, we observed that they are not allowed to partake of the neccessary articles of food which form so conspicuous a part of the dietary of their elders. They are allowed neither the use of alcohol nor of tea and coffee, except gradually as they draw towards the adult age, but are fed on simple nutrients, milk, cooked cereals and more or less meat."

I have quoted thus fully from Roberts in order to be sure of making his meaning clear.

Granting the truth of his theory of high and low feeding, it seems to me to be an argument against meat for children rather than in favor of it. Childhood is certainly the age for low rather than high feeding. The breeder who takes his colt from the pasture young, and feeds him with oats, develops his muscles by work at an early age and makes a horse of him as early as possible, generally turns out to have made an inferior horse at last.

While the community is putting off the age of learning to read until eight or nine, and deploring the existence of a large and exciting literature, is it not out of place to endeavor to stimulate them with "high feeding?"

Robert's himself says, "it is important to remark that the main dietetic customs of a country are instituted for the benefit of the robust and healthy, of the sober and temperate, and those of mean or average constitution; in other words, for those who are bearing the burden of the day and fighting the battle of life. These form the great mass and bulk of the adult population, upon whose bodily and mental efficiency national progress and ascendency depend. A good many individuals, and even entire families, may not find these customs beneficial to their exceptional tendencies or weaknesses; they may even find them destructive to their health and life. Nevertheless, differences of constitution and personal idiosyncrasies have to be reckoned with; and there are frequently good, indeed paramount, reasons why individuals should, in some particular or other, depart from the general dietetic plan." I think this applies also to peculiarities of age, and he says, in speaking of the high-fed races and classes as the "soil or breeding-ground out of which eminent men chiefly arise," "It

is remarkable how often we hear of eminent men being troubled with gout, and gout is usually produced either by personal or ancestral high feeding."

A diet which tends to produce literary and scientific predominance at the cost of gout hardly commends itself as a diet for children.

Were it only claimed that meat contained nourishment in a concentrated and easily digestible form, it would still remain to be proved that this is an advantage. On the contrary, we know that for infants (not on the breast) milk combined with some, at their age, innutritive material, such as starch, is often more easily digested than milk alone. Coarse oatmeals and cracked wheat are taken by older children and adults, partly for the very purpose of giving a non-nutritive diluting material together with the digestible.

Many nations of great physical strength take no meat. We need only look at the Scotch with their oatmeal, the Egyptian sailors and the Japanese with their rice, the latter of whom perform labors that would be impossible to most meat-eating men. The same may be said of the East Indian runner.

ON THE NEUROTIC TREATMENT OF SUMMER DIARRHŒA AND CHOLERA INFANTUM.

BY ALEXANDER HARKIN, M.D., F.R.C.S., ENGLAND,
Consulting Physician, Mater Infirmorum Hospital, Belfast.

ALL experience teaches, that nations and communities increase, not so much through a preponderance of births, as by a diminished death-rate; in England, where there is, except in certain localities, an almost constant numerical relation between births and deaths and where the prevalence of a high birth-rate is often not inconsistent with an inordinate death-rate, this truth is fully recognized. In this country of large families, it has been truly said that many children appear to die that others may be born, the vacancy in the nursery is very soon supplied; but such results cannot be predicated of American households, where the deaths observe quite a different relation to the births, and where the annual increase is chiefly attributable to immigrants, nor where as in the East Indies, it is frequently found necessary to send children back to Europe in order to secure a certain amount of power and vitality in the constitution.

Although man alone is cosmopolite, yet perfect acclimatization is scarcely attainable; in the constant struggle with the elements, his constitution becomes modified in accordance with the conditions, natural and climatic, which surround him, and, although it might be concluded that the children of European parents, born in a warm climate, would be better able to bear it, than their parent; such, however, is not commonly the fact, for many languish during infancy and die before puberty.

There is also in the habits of the American people, their preference of hotel life as contrasted with the self-contained houses and homes of the British people, their almost nomadic habits, and the prevalent desire among married people to limit the numbers in families, along with the decline of muscular and the increase of nervous development, and diminished reproductive powers, sufficient reason to explain the relative deficiency there, so observable in infant life, with the enhanced value of every child to the family and to the State.

And when, with the annual return of summer, an annual hecatomb of infantile life is the result, the loss almost assumes, under those circumstances the importance of a national calamity; in the manufacturing districts of England and in the great cities of the United States, summer diarrhœa swells the death-rate to an inordinate extreme. A fatal diarrhœa is essentially an infantile disorder, and although great progress has been effected in hygiene and preventive medicine, in both hemispheres, yet so long as we are compelled to admit, with Dr. West, that fully one-half of the children born in this country perish before they reach the fifth year, or with the late Sir James Simpson, that every fourth or fifth grave dug is for a child under twelve months (which statements "mutatis mutantis" may fairly apply to the United States, we are not entitled to boast of excessive progress in civilization or sanitary science.

But great as are the resources of sanitation, they are not competent to cope alone with the epidemic causes of diarrhœa, of which an elevated temperature is the most important. With the onset of hot weather, the disease increases in frequency and fatality, and as quickly declines with its departure. Extreme heat operates by lowering and disordering the nervous mechanism of digestion. Under its influence, the systemic circulation is excited to over-activity, the circulation in the vena porta is augmented, the liver, in time, becomes enlarged, and an increased secretion of bile is the result, often followed by diarrhœa.

The cramps and spasms, the great depression of the nervous system and the powers of life, the convulsions of so frequent occurrence, and the stage of collapse which so often terminates the infant's existence, all betray the neurotic origin of the disease, and a lesion of the nervous centres.

According to Claude Bernard, the stage of collapse in cholera is referable to great irritation of the sympathetic nervous system, and, as most authorities regard cholerine, choleraic diarrhœa, cholera infantum, cholera nostras, and Asiatic cholera as one in nature, but only differing in degree, if we accept the dictum of the great physiologist in the major, we may fairly apply its teachings to the other divisions of the class. Having for many years been converted to his views on this subject, I have formulated my plan of treatment accordingly, and, knowing that the pneumogastric is the antagonist and controller of the sympathetic nerve in the abdomen, I invoke the action of that spinal nerve by applying over its sheath in the neck a rapidly acting vesicant, the liquor epispasticus of the British Pharmacopœia, with the almost uniform result, that as soon as its powerful irritation is experienced, all vomiting, purging, and cramps immediately cease, natural heat returns to the body, the patient, be he child or adult, generally falls over asleep, and finally awakes, in a few hours, quite free from danger. I apply the fluid with a camel's hair pencil from behind the ear, as far as the angle of the lower jaw, over a space three inches in length and one in breadth; a blister rises in five hours, which I dress with cotton-wool.

In the preliminary stage I enjoin absolute repose, with warmth to the surface and extremities; total abstention from mother's and cow's milk; order, when available, condensed milk, or as an alternative, arrow-root prepared with water, and the free addition thereto of port wine fairly sweetened; it is wonderful how

much wine thus administered an infant of a few months will both require and consume; and beef tea carefully freed from fat; then counter-irritation over the abdomen by poultices and sinapisms; and failing these remedies, *a small blister over the region of the liver*. This latter procedure will often be found most salutary and successful. As internal remedies, having long since discarded the old-fashioned chalk mixture and astringent tinctures, my chief reliance is placed on dilute sulphuric acid, with or without tincture of opium; if given alone, the acid may be taken after every loose motion; if with laudanum, then in regulated and specific doses; one argument for its use derived from recent speculation may be advanced, namely, that the microbes, to whose influence so much of the choleraic discharges are attributed, cannot live in an acid medium, but perish at once. Of course if milk be persisted in, as an article of food, the acid mixture will be the cause of increased griping and pain.

The simplicity and safety of my plan of treatment has been thoroughly tested by myself and many others, for several years past, and might be expected to commend itself in the cure of a class of diseases, so little amenable to ordinary medication. But personal experience in a profession noted for great caution in the acceptance of new proposals, and even open sometimes to the charge of so-called scientific scepticism is not always sufficient.

I have thought it expedient, therefore, to add to my own experience and an independent testimony to the value of the remedy from places far asunder, and witnesses wholly unknown to the writer. The first I extract from the *Lancet*, October 24, 1885, which occurs in a letter to that Journal, dated "Grantham, October 7, 1885," and signed "Harry Poole Berry, M.B., London," who states that he had read my letter on the subject in the *Lancet*, of August 16, 1884, "that he had no opportunity of trying the remedy (stimulation of the vagus) in Asiatic cholera, but, as to its being remarkably effective in English cholera, in the summer diarrhœa and vomiting, which we so frequently meet, I feel convinced after repeated trials. I have tried this external application in at least twenty cases, which were more or less severe, and occurring in patients ranging from infancy to old age. In all the cases it has been attended with marked and immediate success, the vomiting and diarrhœa being controlled almost at once, and in some of these cases I had previously tried acid and opium, catechu, chalk, and logwood. It is a method of treatment which is attended by no risk and in no way interferes with any other treatment the practitioner may see fit to carry out."

The next witness hails from Buenos Ayres, where, according to the *Lancet* of May 14 and 28, 1887, "Dr. Peacan has for many years pursued with much success the plan introduced by me for the care of Asiatic cholera, namely, the stimulation of the pneumogastric, and thus paralyzing the action of the sympathetic on the abdomen; Dr. Peacan's success in cholera treatment being a striking proof of the soundness of Dr. Harkin's views tested in a different hemisphere."

— Cholera is reported to be spreading rapidly in Tonkin. This circumstance is important, because it was from Tonkin that cholera was first imported into the military port of Toulon, leading to the serious outbreak of 1884–6.

REPORT UPON FOODS, DRUGS, AND THEIR EXAMINATION.

BY DR. B. F. DAVENPORT,
Analyst, Massachusetts State Board of Health.

COCAINE.

The great instability of cocaine is now well known, simple contact of the free alkaloid with water being sufficient to decompose it. Atropine is found to be similarly decomposed, though not so readily. Cocaine hydrochlorate should be required to be absolutely neutral, volatilize completely, dissolve clear and colorless in water, give a colorless solution with strong sulphuric acid, not reduce potassium permanganate immediately, and when heated with an excess, give off no odor of bitter almonds. Ecgonine, a decomposition product of cocaine, is devoid of anæsthetic properties, but acts as a tetanizing poison.

TEREBENE.

Terebene is the optically inactive product of the action of strong sulphuric acid upon turpentine. Dr. Tidy asserts that only the impure samples exercise any physiological action.

ARTIFICIAL QUININE.[1]

The discovery of a method of producing quinine artificially at an extremely low cost has been announced, and if confirmed, would, no doubt, be of great chemical, if not commercial interest. Considerable reticence has, however, been manifested as to the process, and, practically, all that is known is that some samples claimed to have been thus produced present the peculiarity of being contaminated by impurities corresponding in their properties to the alkaloids accompanying quinine in cinchona bark.

PULQUE AND MESCAL.

From the aloe or maguey plant, some thirty varieties of which grow wild throughout Mexico, besides pulque or Mexican beer, and mescal, the chief spirit of the country, a distillation resembling a coarse quality of gin, and very intoxicating in its character, there is produced a fine quality of brandy, known as tequila, which is highly valued on account of its purity and strength, the unfermented juice or sap direct from the plant being called hydromel, or honey juice. By the mixing or blending of these products with each other and other fluids, many alcoholic drinks are compounded. After tapping, a single plant will yield, upon an average, over a gallon of juice a day, or about one hundred and twenty gallons during the three following months, before it dies.

PROPRIETARY MEDICINES.[2]

The medical commission having charge of licensing the sale of proprietary medicines in Russia has recently reported upon a medicinal water which claimed to have effected marvellous cures, that, upon chemical analysis, it proved to be absolutely identical with the water of the Neva River, at St. Petersburgh.

TOXIC POWER OF ALCOHOLS.[3]

The alcohols due to fermentation constitute a natural chemical series, of which the formulæ go on increasing by a CH_2 molecule from ethyl alcohol C_2H_6

[1] The Pharm. Jour. and Trans., January 1, 1887.
[2] The Pharm. Jour. and Trans., January 8, 1887
[3] Dujardin-Beaumetz and Andigé. Experimental Researches on the Toxic Power of Alcohols, Paris, 1886.

O_1, through propyl and butyl to amyl alcohol $C_5H_{12}O_1$. Their toxicity increases with their ascent in the series. All the spirits in common use contain variable proportions of these different alcohols. While wine-spirits naturally contain but minute quantities of the higher alcohols, potato and grain spirits contain them in larger quantities. Experiments in chronic alcoholism made upon hogs gave the following medium toxic doses per kilogram of weight for the several alcohols, in their pure state; namely, ethylic, 8.0 grammes; propylic, 2.9; butylic, 2.0; amylic, 1.7.

If impure ferments are used, iso-alcohols are generated, of which the toxicity is greater than that of the pure alcohols. Rice and maize will, with pure ferment, produce ethyl alcohol of almost absolute purity, not even needing rectification, so minute are the higher alcohols.

HORSE-FLESH *vs* BEEF.[4]

Dr. J. Bell, of the Inland Revenue Laboratory, London, seeking for a practical method for distinguishing between horse-flesh and beef, has shown that the usual physical appearances relied upon by the inspector of slaughter-houses at Paris are not certain. He observed that the adipose tissue of the horse was of a softer and more oily nature than that of beef. Upon experiment, he found that horse-fat at 70° F. formed a clear oil, and the amount of solid fat deposited at lower temperature was comparatively small. The melting point of beef-fat varied between 110° and 116° F. The specific gravity of horse-fat at 100° was 0.9084 to .9088, while, with beef-fat, it was 0.9036 to .9040. This difference affords a positive means for distinguishing horse-flesh from beef.

INSECT-POWDER.[5]

The Dalmatian insect-powder has, for several years, been cultivated on a large scale by Dalmatians settled in certain portions of California. The employment of insect-powder by way of fumigation is exceedingly effective, particularly in closed rooms, where the dense smoke produced by it, which is not at all disagreeable to human beings, soon kills all insects, particularly those having tender or soft bodies. This method is especially valuable for the purpose of killing mosquitoes in rooms.

DRUGS USED AT ST. BARTHOLOMEW'S HOSPITAL.

The paper by Dr. W. S. Church in the Hospital Report upon its pharmacopœia and apothecary shop, has brought out interesting points as to the quantities of the various drugs consumed, and the dates of their introduction. Epsom salts is the drug used in the largest quantities. The last thirty years consumed 120¾ hundred-weights against 43¼ hundred-weights for the preceding twenty years. Taking the ordinary dose at half-an-ounce, gives 340,480 doses as dispensed in the course of the year of this drug alone. In 1836, there was 8¾ tons of linseed meal used, while, during the last ten years, it has averaged 15¾ tons. In 1837, leeches to the number of 96,300 were used, while, since 1870, they have averaged only 1,770. Bark first appeared in the pharmacopœia of 1739, although probably already used for fifty years. The average yearly consumption of quassia rose from 6 pounds in 1844, to 506 pounds between 1866 and 1875. Quinine averaged 143 ounces yearly between 1836 and 1845, while for the last ten years it has been 1,123 ounces. Potass. bromide, averaged 146 pounds between 1866 and 1875; since then, 347 pounds yearly. Potass. iodide, averaged 105 pounds between 1836 and 1845, and 463 pounds between 1876 and 1885. During the year following 1846, when Dr. Hughes Bennett wrote upon cod-liver oil, 17 gallons of it were used, while between 1876 and 1885 it has averaged 1,368 gallons. In 1842, a quarter-pound of ergot was ordered, but since 1870 it has averaged 146 pounds. In 1848, of chloroform, 17 pounds were used, but during the last ten years, 286 pounds upon the average. Of glycerine, 32 pounds were used in 1852, but now it averages 2,303 pounds a year. In December, 1875, two ounces of iodoform were ordered, and in 1884 there were 115 pounds used. In 1878, of vaseline, 20 pounds were used, but in 1885 it was 3,257 pounds, with no corresponding decrease in lard. Of this last, 1½ tons are used annually in zinc, sulphur, and white precipitate ointments.

PEPPERETTE.[6]

This material consisting of ground olive stones is much used for adulterating pepper. The microscopical appearance of its cells is not unlike the scleregenous cells found in true pepper.

OIL OF WINTERGREEN.[7]

Since the artificial production of salicylate of methyl of good uniform quality at a cost below that of natural oil of wintergreen or birch, the supply of the natural oil may soon cease to be of any commercial importance.

STROPHANTHUS.[8]

From the seeds of *strophanthus kombe*, Prof. Fraser has isolated a glucoside, which he named strophanthin, while for the *strophanthus hispidus*, Hardy and Gallois have obtained a crystalline bitter principle possessing like toxic properties which they have called strophantine. Probably other species of the plant also contain the like principle.

ANTITHERMIN.[9]

This new synthetically prepared compound recently added to the list of antipyretics has the systematic chemical name of phenylhydraginlevulinic acid, and bears a near chemical relationship to antipyrin. Antithermin has been proposed for its commercial name, and it is said to be obtained by dissolving phenylhydragin in dilute acetic acid, and adding to it a solution of levulinic acid, which gives rise to a yellow precipitate. It is obtained in well-formed crystals upon recrystallization from alcohol.

EUCALYPTUS OIL.[10]

M. Noel states that he has often found this oil to be largely adulterated with oil of turpentine.

CHINESE ANÆSTHETIC.[11]

Dr. W. Zambuth in the annual report of the Soochow Hospital mentions a substance resembling wax, but harder, and semi-transparent, which when digested in water together with a small woody excrescence made a mixture possessing well-marked anæsthetic proper-

[4] The Chemical News, January 14, 1887.
[5] Die Tropische Agrikultur, von H. Semler, San Francisco, 1886.
[6] Analyst, February, 1887.
[7] American Druggist.
[8] The subject is extensively treated upon in the Pharm. Jour. and Trans., March 12 and 19, 1887.
[9] Nouv. Rémédes, March, 1887.
[10] L'Union Pharmaceutique, p. 103, 1887.
[11] Nouv. Rémédes, April, 1887.

ties. The finger held in it for some minutes did not then feel the prick of a needle. A Chinese physician described it as being the juice of the eyes of a frog. It was probably obtained by placing a frog in a jar containing flour, and irritating the animal, when it exudes a fluid which forms a paste with the flour.

JÁMBUL SEEDS.[12]

The bark and seeds of the indian plant jámbul or jámnu, have been lately represented as arresting the formation of sugar in diabetes. Experiment has shown that while a certain quantity of diastatic matter converted 44.8 per cent. of the starch employed into sugar in fifty minutes, normally, with the same materials and in the same time, but 19.6 per cent. was converted when fifteen grains of jámbul powder was also present, and only 12.6 per cent. when twenty-five grains of the seeds were present.

CORROSIVE SUBLIMATE SOLUTION.[13]

For dissolving corrosive sublimate distilled water only should be used, as by natural hard water the oxychloride is precipitated out, and in making the ordinary solution of 1 part in 1000, over 80 per cent. of the sublimate may thus be lost, and the solution contain but 1 in 5000 parts in reality. If, however, the natural carbonates of the hard water be decomposed by some acid, as say by one fluid ounce of good white wine vinegar to the gallon of water, this precipitation can be prevented.

FUSEL OIL PREVENTED.[14]

M. Gayon and Dupetit at a recent sitting of the French Academy, presented a method for preventing the secondary fermentation in the production of alcohol, to which the formation of the higher alcohols are due. It was the addition of bismuth salts to the fermenting fluid, they claimed, that thereby only the pure ethylic alcohol was generated.

ARTIFICIAL BORNEOL.

A German house have lately announced that they had succeeded in producing artificially borneol, the camphor so highly prized by the Asiatics for its odor. It would form a valuable material for perfumers, who could thus realize some novel effects, as really new odors which can be made available commercially are rarely discovered.

NATIVE WINES AND BRANDIES.[15]

An examination of native white and red wines and brandies, to ascertain how far they conformed to the requirements of the "United States Pharmacopœia," and were adapted to medical and pharmacopœial purposes has shown that they answered all the requirements except in a few instances.

INTESTINAL GASES.

Of special interest in connection with the proposed treatment of phthisis by the injection per rectum of hydrogen sulphide gas diluted with carbonic anhydride are the analyses which have been made by Prof. Planer, E. Ruge, and C. B. Hofman, of the gases naturally to be found within the intestines, and which have been published in the *Sitzungsbericht d. Wien Akad. de Wiss.*, Bd. 42 and 44, and in *Wien Med. Wochenschrift*, 1872, No. 24. They analyzed the gases resulting from flesh, vegetable, and bean diets in men, dogs and rabbits. Stated briefly, the natural gas was found to be an admixture in quite various proportions, of carbonic anhydride with hydrogen, marsh-gas, oxygen, nitrogen and hydrogen sulphide. This last was found to be usually a decomposition product formed within the large intestines, and not to be present in a larger proportion than from 1 to 2 per cent. Planer found that the presence of 10 per cent. in an injected gas, being quickly absorbed, developed symptoms of poisoning in dogs. He could not detect it in the breath, which W. Kühne claims that he himself easily did.

[12] British and Colonial Druggist.
[13] Pharm. Centralhalle, August 19, 1886.
[14] Compt. Rend, cili, 883.
[15] Contrib. Dep. Pharm. Univ. Wisconsin, No. 1, 1885.

Hospital Practice and Clinical Memorandum.

CLINICAL NOTES ON DR. BERGEON'S TREATMENT OF CHRONIC DISEASE OF THE LUNG AND AIR PASSAGES BY MEDICATED GASEOUS ENEMATA.

BY FRANCIS P. KINNICUTT,
Physician to the St. Luke's Hospital, New York, and the New York Cancer Hospitals.

DURING the past three months, Dr. Bergeon's method of treatment of chronic disease of the lung and air passages by means of gaseous enemata, has been employed in the author's wards in St. Luke's Hospital and in his private practice, and the results carefully observed. With one exception, all of the patients thus treated, had been under observation for considerable periods of time, during which their weight, the daily amount of sputa, the temperature curves and the physical signs had been accurately noted.[1] The apparatus employed was Dr. Morel's, of Paris; either the Richfield Springs or the Sharon water, preferably the former, was used to charge the carbonic acid gas (which was freshly prepared for each enema) with sulphuretted hydrogen.

Five litres of the gas, as a rule, were injected once daily; occasionally a similar amount was injected, a second time, in the twenty-four hours. The following tables illustrates the results obtained in the individual cases in which this treatment was employed.

At the present time, the author's experience with this method of treatment has been far too limited to prevent of more than a corroboration of some of the statements which have been made by Dr. Bergeon and others, in regard to it. That it is capable of lowering the pulse, reducing the temperature, diminishing the severity and frequency of the sweats, of markedly diminishing the amount of the expectoration, of improving the appetite, in other words of greatly *ameliorating* many of the distressing symptoms of advanced phthisical disease, does not seem to admit of doubt. That it is capable of "rapidly arresting early cases of phthisis," cannot yet be affirmed from the comparatively limited experience of American physicians. From their published reports, up to the present date, it would seem that Dr. Bergeon's method had been employed by them chiefly in cases of *advanced* disease, which may justly be considered as incurable by any method of treatment. "To *cure* phthisis, treatment must be instituted before extensive destructive disin-

[1] In all of the cases of phthisis, tubercle bacilli in large numbers had been found in the sputa.

Cases.	Physical Signs on Admission.	Results after enemata for	Temperature	Weight	Appetite	Amount of sputa	Sweats	Physical signs
1 Male 33 years	General tubercular infiltration of both lungs, with cavities at both apices. Evening temperature quite constantly 102°, before treatment.	26 days	Evening range from 98.5°–100°	Gain of 4 lbs.	Improved	Reduced from 2 oz. to ½ oz.	Ceased	No appreciable change. Marked improvement in general condition
2 Female 33 years	General tubercular infiltration of both lungs, with cavities at both apices. Evening temperature before treatment, 102°+	19 days	Slightly lower range until death	No effect	Improved	Reduced in 24 hours from 5 oz. to ½ oz. without further change	Improved	Not affected Death on 23d day
3 Male 25 years	Laryngeal phthisis; extensive consolidation of upper lobe, left lung, areas of softening and cavity. Evening ranges of temperature, 101.5°–102.5.	30 days	No effect	No effect	Improved	Slightly diminished	Improved	Not affected
4 Male 18 years	Small cavity at left apex, with extensive consolidation of upper lobe of same lung. Beginning trouble at right apex. Evening ranges of temperature 101°–102°.	39 days	Normal	Gain of 8½ lbs.	Improved	Reduced from 10 oz. to 2 oz.	Ceased	Signs at right apex disappeared, with exception of slightly wavy inspiration
5 Male 39 years	Cavity at right apex, with areas of consolidation and softening throughout upper lobe, same lung. Evening range of temperature, 101°–103°.	22 days	Evening range 100°–101°	Gain of 3 lbs.	Improved	Slightly diminished.	Markedly diminished in frequency and severity	No appreciable change
6 Female 45 years	General bronchitis (chronic) emphysema and asthma.	3 days Asthmatic attack relieved completely by enema.				Markedly diminished		Disappearance of moist rales, signs of emphysema. Unaffected
7 Female 15 years	Large abscess of lower lobe of left lung. 12–16 oz. of fœtid pus by mouth daily. Little or no elevation of temperature.	20 days		Gain both before and dur'g treatm't	Always good	No effect Fœtor unaffected	Not present before treatment	Unaffected
8 Male 55 years	General bronchitis (chronic) apyretic.	18 days		No effect	Marked improvement	Markedly diminished	Not present before treatment	
9 Female 35 years	General tubercular infiltration of both lungs. Cavity at left apex. Softening at right apex. Evening range of temperature, 102°–104°.	25 days	Slightly lower range	Loss of 6½ lbs.	Improved	Reduced from 15 oz. to 10 oz	Ceased	Unaffected

tegration of lung tissues has occurred." The subjection of the diseased tissues to aseptic and anti-septic influences is the basis of the modern treatment of pulmonary tuberculosis, and rests both upon a sound pathology and upon clinical experiences. The removal to comparatively aseptic climates, is quite impossible in the case of the majority of sufferers from phthisis, and it is to these patients and in the early stage of the disease, that Dr. Bergeon's method would seem to offer possibilities, which cannot be disregarded. It will be seen from a study of the above tabulated report, that in all the cases of phthisis, the disease was far advanced. In cases 1 and 9, the last stages had been reached. In cases 4 and 5, the patients were confined to their beds before the treatment was instituted, and were rapidly failing. They are at present able to be up and out of doors, and the improvement in their general condition is most striking.

In case 5, the patient had been in the wards for six months, and although under as thorough antiseptic medication as possible, his condition has steadily grown worse.

Only a single opportunity presented itself for a trial of the efficiency of the treatment in paroxysmal asthma. The results were such as to warrant its repetition in similar cases. By a careful attention to the details of his method, as insisted upon by Dr. Bergeon, absolutely no disturbance was caused in any of the cases, with the exception of occasionally an uncomfortable feeling of abdominal distension, by the administration of the enemata.

— Dr. Pawlik, Docent in obstetrics and gynæcology at Vienna, has been named an ordinary professor at the Tscheck medical faculty of Prague.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES P. STRONG, M.D., SECRETARY.

MEETING, January 3, 1887. DR. E. J. FORSTER in the chair.

DR. C. P. PUTNAM read a paper upon

THE USE OF MEAT AS A REGULAR ARTICLE OF DIET IN THE NURSERY.[1]

DR. FOLSOM stated that while his ideas were similar to those of the reader to a certain degree, still he felt that many cases of pale and anæmic children were better treated by a meat-diet than by medicinal tonics.

DR. E. G. CUTLER said that the dietary of a large asylum, which was the home of children of all ages, from a few months to puberty, had not been modified for a great many years, as the health-rate had been so good. Meat was given bi-weekly only.

DR. H. C. HAVEN stated that the same results were found following either too high or too low a diet, and that much of the evil that was attributed to some special diet really was due to the improper digestion of the albuminoids ingested.

DR. REYNOLDS thought it was not advisable to adopt a uniform method of feeding for all children of the age under consideration. If the members of one family profit by the food advised by the reader, the condition of their neighbors may distinctly call for tonic feeding or even for stimulants. Age is only one factor in the question. The paper records that dysentery prevailed in the New York Dispensary

[1] See page 30 of the Journal.

when animal food was added to the diet, yet how valuable a remedy has uncooked meat been in many a case of diarrhœa?

DR. C. M. GREEN said that, although he had seen the injurious effects in children of eating too much meat, he had often been puzzled to know what food to advise in certain cases in which, as often happens, the child does not take kindly to the old-time simple puddings and farinaceous preparations mentioned by the reader. A plain diet of bread and butter, and milk, becomes monotonous to many children, and some variety must be given them, or the appetite will flag. Eggs he had found to be less easily digestible by children than meat, and some children do not care for potato and other vegetables. He thought that fish was a suitable article of food not sufficiently appreciated: being much less rich in stimulating extractive matters, it was peculiarly well suited to children. He believed, however, that even beef and mutton could be given in moderation two or three times a week without ill effects, and the other days could be provided for with fish and poultry. With this variety, bread, butter, and milk, together with fresh fruit, would make up an ample diet. Some children do not care for meat, and thrive on an exclusively vegetable and farinaceous diet: he did not believe in urging such children to take meat. Each child's proper diet should be arrived at by individual experiment and observation.

DR. ROTCH remarked that so far as the ideas of Clouston and others might lead to a more careful supervision of children's diet, in avoiding excess in the proportion of meat to vegetables and milk, they were of great value, but that he was not as yet prepared to subscribe to the entire withdrawal of meat from the dietary of children who have attained their third or fourth year, as, according to his observations, not only were the children in this community not especially meat-eaters, but the very nervous disturbances which were described in the paper, were also represented in children who eat but little meat in proportion to vegetables; he also said that he had met with quite as much if not more trouble from chronic local digestive disturbance arising from excess of vegetable diet, as he had from nervous disorders arising from too much meat: he would, therefore, while allowing that children have grown up strong and vigorous where meat had been withheld, advise for the average child of three or four years, according to its development, a carefully arranged mixed diet of soups, meats, bread and butter, milk, vegetables, and at times eggs, fish and fruits, taking care to strike out from this dietary, especial articles only where the marked idiosyncrasy of the individual seemed to indicate it, and also that this variety of food should not be used so much for especial meals and days, as for different days and weeks.

DR. C. P. STRONG presented a paper upon

THE USE OF PERMANGANATE OF POTASSIUM IN AMENORRHŒA, CLINICALLY CONSIDERED.[1]

DR. SAWIN exhibited a specimen of

RUPTURED HEART AND THROMBOSIS OF THE CORONARY ARTERY,

with the following report:

A few days ago, at about 1 P. M., I was suddenly summoned to see a gentleman, sixty years of age, who had been found by his assistant sitting in an arm-chair with his arms hanging limp at his sides. He was extremely pale and almost pulseless. When I examined him he had been removed from his place of business to his home, which was in the same building, and was sitting upright in bed. The pallor of his face was marked, lips cyanotic, and he was suffering intense pain in the præcordial region. Respiration, not unusual. Pulse, 44, and very weak. Upon auscultation of chest no abnormal cardiac sounds were detected. Brandy, aromatic spirits of ammonia, and the hypodermic administration of a quarter of a grain of morphia had a favorable effect in increasing the strength and rapidity of the pulse, though the distressing pain continued unabated. It was learned from the patient, who had been conscious from the outset, that he had been subject to asthmatic attacks for eight years, and that during the past month he had experienced occasional twinges of pain in the left chest. Deodorized tincture of opium with Hoffman's anodyne internally and hot fomentations to chest, afforded no relief, although at about 4, P. M., the pulse had increased to 70 per minute, and was apparently normal in strength. The character of the pain necessitated a frequent change of position. At about 9 o'clock, after consultation with two other physicians, another hypodermic injection of morphia was administered. At 9.30 P. M., pulse showed an intermittent character and increased to 90 beats per minute. Patient very drowsy and quite comfortable. Became suddenly pulseless during an act of vomiting, and died at 11.40 P. M. Autopsy thirty-six hours after death.

DR. R. H. FITZ described the appearances of the specimen, stating that some eight ounces of clotted blood were found in the pericardial cavity. The heart was not especially altered in size or shape, but the left ventricle was somewhat dilated and the muscle was of a paler color than normal. A rent, a half-inch long, extended obliquely across the anterior wall of the left ventricle in the middle third and ended within a half-inch of the left coronary artery. The ventricular wall in this region was less than one-quarter of an inch thick and was infiltrated with blood. A flat, reddish-gray thrombus several lines in thickness was adherent to the endocardium in the lower third of the ventricle.

The left coronary artery was thickened and calcified. About a half-inch from its origin it was filled with a soft, adherent, reddish-gray thrombus a half-inch long. Beyond the place of obstruction the artery contained liquid blood. The right half of the interventricular septum, throughout its length, was dry, opaque, grayish-yellow, presenting the appearances of an ischæmic necrosis. In general, the heart gave but little evidence, on microscopical examination, of fatty degeneration. Other abnormal appearances of the specimen than those described were not seen.

[1] Publication deferred.

— Discussing the subject of the doctor's income, Dr. Paget Thurston says that the trouble is not in want of patients, but in the low rates of fees, for Dr. Thurston says that in England ten per cent. of patients pay five shillings ($1.25), ten per cent. pay 60 cents to $1.25, while eighty per cent. pay such fees as no doctor or educated gentleman can possibly live on, the average for union, club, and dispensary patients being ten to fifteen cents.

NEW HAMPSHIRE MEDICAL SOCIETY.

NINETY-SEVENTH ANNUAL MEETING, JUNE 21, 1887.

PRESIDENT'S ADDRESS. — THE GERM THEORY.

PROFESSOR FROST traced the history of the growth of the germ theory of disease, and especially the investigations of Pasteur, of whom he said: "With a naturally bright and active mind, he came to the study of fermentation after a vigorous and long-continued training in the solution of various scientific problems by careful experimentation. Many observers have worked in this field before him. Many valuable facts had been made known, but their relations to each other were not appreciated. Trodden fields are often fertile to the fresh investigator. Oftentimes, previous and distinguished laborers have but turned the soil for future investigators." The speaker gave a long account of the investigations of Pasteur and his co-laborers, and he noted their present state of advancement. He said: Many bacteria — I use the word as including the three general classes of microbes capable of causing disease: micrococci, bacilli, and spirilla — have been discovered, and their life history carefully investigated. They are studied with reference to their physical appearance, their peculiarities of growth under varying conditions, their physiological action on animals, and their relation to fermentative fluids, when placed in suitable conditions. It is reasonably certain that the micrococcus of gonorrhœa has been found. In pus, several micrococci have been identified, one of which closely resembles that of erysipelas, a disease whose parasitic origin is now clearly settled. We have, also, the bacillus anthracis, and undoubtedly that of typhoid fever. The bacillus of pneumonia, described first by Friedländer, is still under observation; more facts may be required to establish its positive agency in the causation of this disease. The bacilli of glanders, of syphilis, and of leprosy are also probably known. The causative agency of the bacillus of tuberculosis, as discovered by Koch, may well be considered as established, as may that of cholera, and perhaps that of yellow fever.

In regard to the exanthemata, there can hardly be a doubt that for each there exists a microbe as the agent of causation, although its complete identification in any case is probably lacking. Without prolonging this enumeration, I can say that there seem to be sound reasons for the belief that our knowledge in this direction will be greatly increased in the near future.

In some cases, it may be true that much larger claims have been made than are justified by the facts. It is possible that in some instances the bacteria may be present, because the conditions under which they are found are favorable to their development, and that their presence should be reckoned as a consequence, rather than as a cause of disease.

By some, who do not yet accept the germ theory of disease, the position is taken that these microbes simply add to the dangers of the malady, and do not at all act as original etiological factors. This is a claim made, especially in regard to the coccus of pneumonia.

The knowledge of the relation of putrefaction to the presence of microörganisms has led to very surprising results, especially in surgery. Many of the dangers of surgical operations can now be avoided by strict observance of means which shall prevent the admission of putrefaction bacilli to the wounded tissue, or destroy them if they have already found entrance.

In obstetrics, the use of the so-called antiseptic precautions has shown surprisingly favorable results.

Until quite recently, there has been much doubt whether many of the good results claimed for the antiseptic method were not really due to the greater care in the treatment of the patients which it required, and to the increased cleanliness included in the process.

A more thorough study of the various agents claimed as antiseptics shows that some of the former failures in the antiseptic treatment were rather due to agents used than to the theory on which they were employed, as they were experimentally found not to be true germicides.

The relationship of conditions of filth to these organisms is an important study. Certain diseases, such as typhoid fever and diphtheria, are quite generally regarded among us as due almost entirely or solely to conditions of uncleanliness, that is, if we consider the replies made to the questions of the Board of Health of our State as indicative of the general opinion. There is no doubt that, particularly as respects the bacilli of these diseases, states of filth are favorable to their development outside the human body. Very likely, also, so-called unsanitary conditions tend to produce in the human body a favorable soil for the reproduction of these organisms, but their presence is certainly one of the essential factors in the causation of the disease.

Increasing knowledge of these organisms is continually extending the field of preventive medicine, and is thus leading to a more intelligent use of the agencies which it employs.

The question arises whether the methods of treatment by therapeutic agencies have as yet advanced to meet the requirements of enlarged views as respects the pathology of these diseases. We feel sure that they have not, but the progress will come sooner or later. The eager avidity with which any new plan of treatment, professedly based on these more recent views in pathology, is seized upon by the profession, is evidenced by the great demand for, and the extensive use of, the apparatus and medicaments required in the employment of gaseous enemata in cases of consumption, which almost amounts to a craze.

While it is best to have minds ready to be convinced on sufficient evidence, it is well not to be carried too far by the statements of early and enthusiastic explorers in these fields.

ADDRESS IN OBSTETRICS. — BREECH-PRESENTATIONS.

DR. CHILDS. Have the patient on left side, near edge of bed, with back to operator. Have thighs of patient flexed upon body moderately, and with firm bedding beneath. Have right supported by knee, as far as may be above its mate. Now, immediately on escape of body, shoulders, and arms, grasping feet with right hand, carry child around between legs, upon and parellel to abdomen of mother, making gentle, but increasing traction. The head will be delivered instantly generally, always under the conditions under consideration. There should not be an instant's delay between the delivery of body and the manœuvre, and the movement should be performed with boldness and considerable traction.

Why does this plan succeed, and why does the opposite fail? First, why does the opposite fail? When the head descends upon the lower outlet, we

have, practically, a slit in a firm, resisting texture. This opening has a diameter of four-and-one-half inches. To be drawn through this, we have the head with an ovoid form, the short diameter being three-and-one-half-inches, the long diameter being five-and-one-fourth inches. Now the whole matter of delivering the head rests upon bringing this short diameter into the canal of four-and-one-half inches. Now the head is a cylindroid, with its long diameter across the outlet. To its middle is attached a swivel, the neck uniting thereto the body. Now by traction, as directed, on the child's foot, we draw the head along in a line nearly parallel with its long axis, and thus draw the one end of the cylindroid over and above the pubic bone, allowing the other end to drop into and through the slit, and the whole head, by its lesser diameter, escapes with the utmost facility, as would a well-lubricated egg.

Judging from my own experience this situation is not sufficiently comprehended; and the manipulation is not performed with sufficient promptness and positiveness.

Remark the ovoid form of the fœtus and of all its successfully presenting parts; delivery is facilitated by having the curvatures of the fœtus correspond to the curvatures of the canal. These principles are practically recognized everywhere, in all the reproductive efforts of nature, both initial or terminal.

THE FORCEPS

is an instrument first for the mother, second for child. It is the remedy for exhaustive labor cases, and for those that could not be completed by natural or manual efforts. It never should be employed to abridge the average labor. The time, limit and occasion for the use of forceps cannot always be readily determined. But there is such a time, limit and occasion, and they should be diligently, carefully and conscientiously sought. There is a tendency to abuse the use of the forceps. The doctor said he had employed forceps for one in every sixty-six cases.

The rest of the paper was occupied in the consideration of hæmorrhage and puerperal convulsions.

The paper excited lively discussion, particularly in regard to the use of the forceps.

DR. PARSONS said that he should take more liberty in their use than the paper recommended; that he does not believe that they will produce laceration if used properly; that women could be delivered with less injury to the soft parts by the use of forceps than to let them take the natural course; that he has used forceps for the purpose of expediting labor for his own convenience.

DR. HILL suggested that there was less objection to the use of forceps if traction was made only during pains. The perineum should not be supported. Let the parts accommodate themselves to the pressure coming upon them; make the curve at the proper time; and do not pull straight forward with violence, but slowly and gently.

DR. STACKPOLE said that in skilful hands the use of forceps was attended with little danger but great advantage. In unskilful hands they are very dangerous.

DR. DOUGLAS, of New York, said he was surprised that forceps are not used in the country more generally than was indicated by the writer of the paper. Much can be done by gently and firmly helping nature dilate the parts; and at the proper time when instruments can properly be used with safety and can help the work, they should be used. In his practice he used them in about a third of his cases.

DR. NICHOLS said that when in the intelligent judgment of the physician there have been a sufficient number of pains and sufficient expenditure of force to have delivered the child, and it is not delivered, it is his duty to apply the forceps. There is not so much danger of rupturing the perineum with forceps, intelligently applied, as there is by waiting until the perineum is completely exhausted.

DR. WHITTIER said that where the curvature of the pelvis was not sufficient, the sooner forceps are applied the better. Another point: If, when we deliver the head with the forceps, the handles lie upon the abdomen, we shall have less trouble about rupturing the perineum.

There was also considerable discussion about retained placenta in abortion, several speakers suggesting that in cases of only two or three months it should not be extracted. In convulsions, Dr. Hill approved of chloral. Give your chloral either by mouth, rectal injection, or subcutaneous injection, until you have controlled the cutaneous sensibility, which is best shown by the resistance the patient offers. He gave one patient two drams of chloral by subcutaneous injection.

DR. GROSS said he did not think the stomach was an absorbing organ during convulsions, and medicines swallowed are not absorbed, but generally thrown up.

DR. WHITTIER condemned bleeding in convulsions. The patient needs the blood to help her recovery. If the pulse runs up to 140 or 150, give veratrum viride in doses of ten, fifteen, or twenty drops, until the pulse comes down to 80 or 95.

DIPHTHERIA.

DR. MORSE gave the history of the epidemic at New Market, in 1885 and 1886.

DR. CONN. In the time of epidemics of diphtheria and those of a kindred nature we shall be obliged to rely upon prevention rather than cure. Wherever epidemics occur of a contagious, infectious, malignant nature, there will always be mortality attending a certain number of cases. We must rely on prevention. Stop the disease before it commences.

DR. DOUGLAS. In the treatment of diphtheria let your medicines be given very often.

DR. WHITTIER. I do not make any direct local applications. I use tincture chloride of iron in large doses and frequently; practically saturate the system with it. I believe that, either combined or alternated with aromatic spirits of ammonia, being a very pleasant preparation of ammonia, is the best treatment you can adopt. In one year, out of thirty-six cases of diphtheria in which the throat was covered by the parchment patch, I lost none. Local applications are good to clear the throat for the time being of accumulated matter. Subsulphide of iron puckers the patches and causes them to fall off.

DR. HILL. Too much importance should not be attached to the contagiousness of diphtheria. I do not think it is as contagious as most people do. The common opinion occasions a great deal of alarm and sometimes causes neighbors to stay away when the family are suffering from want of assistance.

LACERATION OF THE PERINEUM.

DR. PERKINS gave a summary of the views of eminent authorities as to the causes and prevention of laceration.

DR. WHITTIER described in detail the operation for closing a laceration of the perineum as practised by Dr. Goodell, of Philadelphia and Dr. T. Addis Emmet of New York. He disapproved of the one, two or three stitch operation.

DR. PATTEE gave a report on therapeutics, and then spoke of

THE FUTURE OF MEDICINE

as follows: It seems to me that only two methods offer us much encouragement in a search for real remedies. First, the old experimental one by trial of drugs which is altogether too slow and uncertain for the present age. Second, by investigating more thoroughly the initial vital and chemical changes, which, in all probability always precede the grosser tissue changes. Much doubtless may be learned by studying disease in the lower animals and plants, but whence the remedy shall come is altogether too problematic at present. But it seems to me that experience renders it likely that a search among vegetable infusions and tinctures is a vain one. Possibly some of the various vegetable as well as animal ferments, generally known under the name of micrococci and bacteria, most of which, however, are merely the embryonic stages of protozoa and protophyta, injected into the cellular tissue, into the blood, or even into the cavities and viscera themselves may be followed by results little thought of. These organisms usually show great repuguance to associating with other forms, thus resembling the infectious diseases, and I know of no more effectual means of arresting the development of certain forms without radically changing the menstruum than by adding some other. Moreover, in their modes of development and general behavior as well as physical characteristics they closely resemble those found in the infectious diseases, it not being an unusual occurrence to find the counterpart to all these latter, including the noted comma bacillus, in vegetable infusions, thus indicating that they may, like the entozoa, have other hosts than the human body. From thousands of careful observations on the different parasitic forms, I think there can be no doubt that their non-microscopic products are just as effectual in including their peculiar vital activities, as the individual bacilli themselves. And although we individually may never witness its realization, the hope is not an unreasonable one, that this Society before celebrating its second centennial, may see the time when all acute inflammatory as well as contagious and epidemic diseases, shall be as effectually stripped of their terror as are anthrax and variola at the present day.

CALOMEL, SALICIN, ANTIPYRIN, ANTIFEBRIN AND SILICATE OF BISMUTH,

were discussed by DR. NICHOLS.

DR. CUTLER reported several operations of ovariotomy, and a number of cases of hernia. DR. SMITH gave a history of ovariotomy. DR. LEONARD read a paper on "The Confidence of the Public in Non-professional Prescriptions. Dr. Sanborn read one on "Homœopathy."

June 22d. Officers elected for the ensuing year: Dr. S. W. Roberts, President; Dr. S. C. Whittier, Vice-President; Dr. G. P. Conn, Secretary; Dr. Daniel S. Adams, Treasurer; Executive Committee: Drs. C. R. Walker, George D. Towne, John R. Kimball.

SIXTEENTH CONGRESS OF GERMAN SURGEONS.[1]

THE Sixteenth Congress of German Surgeons met in Berlin during the Easter vacation under the presidency of Prof. v. Langenbeck, of Halle. Prof. Billroth, of Vienna, and Sir Spencer Wells, of London, were elected honorary members. Prof. v. Bergmann, of Berlin, was elected president for the next year. Among the numerous papers read which were worthy of notice was one by Dr. Lange, of New York.

THE ACTION OF IODOFORM

was the subject of an article by DR. DE REUYTER, of Berlin. It has been claimed that iodoform has no antiseptic power. The author could even at the last Congress have reported that iodoform solution has a strong antiseptic action. It, however, as he himself has seen, acts but slightly on bacteria outside of the body, and for this object alone he uses none at all. For such purposes any other covering powder would serve the same purpose. The use of iodoform in the treatment of wounds had given him the following experience. When we make open wounds in animals by cutting out a piece of skin, inoculate the place with pathogenic organisms, and then strew the wound with iodoform powder, some bacilli, for instance that of anthrax and the desquamative septic matter will not be influenced thereby. All these animals die in a few days after the inoculation and the fact is plain that no secretion has taken place and that the iodoform has laid a long time undecomposed on the wound.

If one conducts his observations with wounds which are pocket-shaped, he finds that those animals which were inoculated with pathogenic microörganisms and were strewed with iodoform, live longer than those which have been subject to the same inoculation without the application of iodoform. In the first class of cases one could see that the iodoform had in the greatest part disappeared. This would lead to the decision that the activity of iodoform does not begin till the decomposition has commenced. We must now by analogy reason how this iodoform would act in the practice from its action here related. He had poured a large amount of pus into a dialysator and protected it from further infection. A quantity of iodoform was put in this vessel and the same placed in a cupboard, kept at the temperature of the body, to brew. On the first day no production of decomposition of the iodoform showed themselves; on the third day, however, it was determined that the decomposition of the iodoform had commenced. In the dialysator could be found a noticeably iodoform combination.

The question was, what had decomposed the iodoform, the pus or substances produced from it.

To prove this, sterilized blood serum was put in the dialysator and iodoform added in excess. For weeks no decomposition of the iodoform showed itself. After the staphylococcus pyogenes aureus and the strepcococcus were put into the blood serum decomposition took place in two days. Then the microör-

[1] Specially reported for the JOURNAL.

ganisms themselves first begin the decomposition of iodoform. The bad odor by which the pus culture is usually accompanied was absent.

The fact presented itself that the ptomaine which, as is well known, determine the odor of the pus, brought the iodoform product out of the iodoform, that is, decomposed it. The author brought by distillation after the method of Briegor to obtain the ptomaine. If a few drops of ptomaine were placed to iodoform, iodoform combinasions took place, which could be freed by nitric acid. If one brings a solution of iodoform in alcohol, in contact with culture fluids, it shows no influence on the bacteria. The author had sought further to bring alcoholic ether into the body to determine whether the transfer of iodoform was only superficial. He found that if one placed an alcoholic ether solution of iodoform on one side of the diaphragm of a rabbit, a decided iodine reaction is to be noticed. This, however, is not the case where simple ether solution of iodoform is used.

These investigations go to prove that iodoform makes the bacteria and ptomaines harmless, and prevents a general infection, when it cannot always prevent or control completely the local infection. Iodoform in solution of alcohol and water when added to the culture fluid inhibits the growth of the parasites at once or at least in a few days. For solutions of iodoform ether is the most convenient vehicle, to obtain a superficial action, and ether and alcohol solutions also disinfect the region, thereabout. As the most active the author had found a very fine granular powder. He showed two tubercular culture fluids to which iodoform solution had been added, 1-400, and no farther development of the bacilli took place. The use of iodoform in tamponades of the rectum, or in mouth wounds shows its greatest activity, which goes to strengthen the opinion that ptomaines which are most richly deposited in these protected places, are combined directly with iodoform. He now showed some interesting experiments. He took iodoform powder and poured a few drops of a ptomaine to it. On adding a few drops of hyponitrous acid an evident iodoform reaction showed itself, a proof of the decomposition of the iodoform. When, however, he took common water and placed iodoform powder and hyponitrous acid to it the iodoform remained undecomposed. He considers iodoform a good antiseptic and believes that the more the chemical peculiarities of this substance are studied the greater number of advantages it will be found to possess.

Dr. v. Tischendorf, of Leipsic, reported a case of

ENTEROSTOMY FOR CONGENITAL ATRESIA OF THE ILIUM.

He presented the specimen which had been brought to him on the sixth day of life for treatment. The doctor thought he had a case of atresia of the colon to treat, as this is sometimes congenital. Laparotomy showed an atresia of the ilium 25 cm. above the cœcum. The child only lived fourteen days after the operation. He did not vomit any more but died from general weakness.

— A recent estimate shows that about one-fourth of the population of New York, Boston, and London receive free treatment at the medical clinics; in Philadelphia one-fifth, and in Liverpool over one-half the population.

Recent Literature.

A Treatise on Diseases of the Skin, etc. By T. McCall Anderson, M.D. Philadelphia: P. Blakiston, Son & Co. 1887.

The qualifications of Dr. Anderson from experience and training, to write a treatise upon diseases of the skin are well known, and the result is a textbook of more than average excellence. The framework of the book is represented by the teachings of Hebra and the Vienna school as supplemented and modified by the personal experience of the author, and many prescriptions and tables of differential diagnosis are given, rendering the work a useful guide to both student and practitioner. G. H. T.

Practical Lessons in Nursing. Maternity, Infancy, Childhood; Hygiene of Pregnancy; Nursing and Weaning of Infants; The Care of Children in Health and Disease. Adapted especially to the use of Mothers or those intrusted with the bringing up of Infants and Children, and Training-Schools for Nurses, as an Aid to the Teaching of the Nursing of Women and Children. By John M. Keating, M.D. Philadelphia: J. B. Lippincott Co. 1887.

This is one of a series of small volumes on practical lessons in nursing. The title describes the contents, and it only remains to say that the subjects are treated intelligently, judiciously and clearly.

Cancer Massif du Foie. Par M. le Dr. A. Gilbert. 8vo. pp. 85. Paris: 1886.

This is the title of a treatise, just received, wherein is exhaustively discussed a form of cancer of the liver, which the author maintains, apparently with success, is entitled to the name he gives it, not only on account of the great size attained by the diseased organ, but for other peculiarities worthy of special consideration. It is, he declares, not a secondary affection but a primitive disease, consisting of a uniform neoplastic mass not to be confounded with secondary forms that are made up of separate nodules or other irregularities.

Large as the organ becomes it always retains its natural shape, its smooth surface, with little or no change in color. Its whole substance appears to be converted into a uniformly homogenous, softened or lardaceous mass.

In its evolution massive cancer is generally rapidly progressive, becoming immense in a very short time. Without its interfering greatly with the stomach or other digestive organs, emaciation and debility come on with great rapidity. In general the disease lasts but a few months only; and may, if very severe, terminate in a few weeks. It usually ends in exhaustion and prolonged coma.

Space forbid a more particular enumeration of the peculiarities of this form of disease as set forth by Dr. Gilbert. Therein he has made a valuable contribution to science, and it is gratifying to learn, from the preface, that he will ere long, in connection with an able elder associate, publish an extended work on the general subject of diseases of the liver.

We may add, however, that any one interested in these matters may find it worth while to examine the record of a case reported to the Boston Society for Medical Improvement and published, with illustration and discussion thereon, in this Journal, August 12, 1869, p. 19. That case corresponds most wonderfully, in symptoms, progress, and pathological details, with those described by Dr. Gilbert. C.

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STATE PROPHYLAXIS OF SYPHILIS.

THE French Academy has recently listened to a report on the public prophylaxis of syphilis from a Committee, of which the venerable Ricord was the President, and Bergeron, Le Roy de Mericourt, Leon Lefort, Leon Colin, and Alfred Fournier the other members. The "notorious insufficiency" of the present measures to protect against syphilis led the Academy to appoint the Committee to inquire what reforms or innovations it is necessary to introduce for public protection, and to prepare a draft of a report upon the subject, to be presented to the civil authorities. The Committee reported through Fournier, and its recommendations are not only interesting, as showing the condition of affairs and the growth of public sentiment in Paris and France, but are instructive for the people of other countries.

This Committee enumerates certain propositions which constitute a basis for public prophylaxis:

(1) That prostitution creates a public danger by the venereal contagion that it disseminates among the population.

(2) That it is indispensable that prostitution should be regulated, and, if possible, repressed by public authority, in the double point of view of hygiene and morality.

(3) That the system of free, that is to say, unregulated, prostitution is disastrous to the public health.

(4) That *public provocation*, which is the only form of exterior manifestation by which prostitution can be legally attacked, ought to be combatted and repressed under its divers forms.

Provocation upon the streets has greatly increased of late years in Paris, as have also the shops which nominally sell perfumery, men's gloves, photographs, etc., but which are but shields of prostitution. Other less known, but equally dangerous, forms of provocation are those which radiate about the schools and colleges, where veritable bureaus of females are organized, and recruit a special *clientèle* among the students; the breweries with female waiters, which are simply disguised houses of prostitution, and the wine-shops, worse than the last, which attack, particularly, the working class and the army. The Committee desire that public provocation, as the fertile source of contagion, shall be considered a crime; that provocation by means just mentioned, wine-shops, etc., shall also be regarded as a crime to be legally suppressed. The punishment appropriate to the crime the medical commission does not undertake to specify, but only to suggest that public safety demands the periodical medical inspection of females found guilty of public provocation, and the confinement of those diseased in a special sanitary asylum. This proposition differs from the present system in two particulars: it substitutes for the present arbitrary police system one which has respect for individual rights for a basis, and must be carried out with due legal formalities; for confinement in prison it substitutes treatment in a special hospital.

Under the present system, the police directs everything with a high hand. It establishes the crime by the report of its agents, and nothing more; it judges the crime by its chief of the *bureau des mœurs*, and this, too, without chance for defence; it "inscribes" the girl considered guilty; it punishes all infractions of its own regulations; physicians chosen by the police establish the fact of disease, and have charge of the diseased in prison. Here is an exorbitant discretionary power like to nothing else, contrary to justice and modern ideas. While expressing the opinion that the police officials have always acted for the public good, the Committee did not hesitate to say that the system does not meet the public approval.

For such arbitrary procedure the Committee proposes to substitute a regulation like the following: The inscription of any girl guilty of provocation upon the public streets can never be made, except by a court of justice after cross-examination and opportunity for defence. Certain changes in details in regard to the medical examination of the inscribed prostitutes are suggested which it is unnecessary to repeat here, but certain reforms in the hospital treatment are of more immediate interest. The number of beds devoted to the treatment of venereal maladies is at present notoriously insufficient. The commission desire that hospital accommodations shall be increased by the creation of new special hospitals. The most useful thing to diminish the number of syphilitic contaminations is to send to the hospital every patient affected with contagious lesions, thus removing even the possibility of transmitting the disease. To confine syphilis in its contagious forms in hospitals, is to render it inoffensive. It is then necessary that the number of beds allotted to the treatment of syphilis shall be equal to or even greater than the requests for admission. The great expense attendant upon such a scheme, should not stand in the way of carrying it out, for the present expense would constitute an economy for the future, in diminishing the number of contaminated subjects. The drugs proper for the treatment of venereal diseases, should be dispensed

gratuitously at all hospitals, special and general. Gratuitous consultations with the free distribution of medicine, should be given at the special sanitary asylum intended for the treatment of diseased prostitutes.

One of the best means of combatting syphilis is to teach the rising generation of medical students better than is done to-day, to recognize the great malady under its divers forms, to treat and cure it. The greater number of students take up practice with only the most superficial and rudimentary knowledge of venereal affections and of syphilis in particular, and as a consequence errors in practice are numerous; the chancre is confounded with this or that, the mucous patch or other specific manifestation is unrecognized, syphilitic children are confided to healthy nurses, or inversely, syphilis is considered cured after some weeks of treatment, patients are permitted to marry too early while still capable of infection, errors which tend to spread the disease and which might have been avoided by a more complete education. The Commission therefore devoted much study to the means necessary to develop proper knowledge among the younger generation of medical men. The measures advised are the opening of all venereal services to students of proper advancement; to demand of every aspirant for a degree, before the deposit of his thesis, evidence of three months' study in a venereal service; to determine by the *concours* the appointment of all the medical staff destined to treat syphilitics and to carry out the sanitary regulations previously mentioned.

In the army, especially, syphilitic contaminations are lamentably frequent, and the committee recommended a series of measures as follows:

(1) To institute in the army a series of *conferences* with the object of enlightening soldiers upon venereal affections in general, and upon the dangers of syphilis in particular, upon the benefit of a scientific treatment and the necessity of prolonged treatment.

The lectures should be given by the military surgeons of each corps; they should be annual and should by preference take place soon after the enrollment of the young recruits. A like conference should be given to the reserves the day following their assembling, and in support of the need of such care of the reserve it is stated that it is impossible to count the number of reservists who contract syphilis during the twenty-eight days that they pass away from home.

The committee believe firmly that these lectures can have the best results in enlightening an immense number of young men who take their places with the colors in a state of ignorance, almost absolute, concerning venereal affections and their consequences. Little by little can be extended through the regiments sanitary notions which will do more in the way of prophylaxis than the most strenous regulations. And as the great majority of Frenchmen are subject to military duty, it follows that at the end of some years healthy notions will have penetrated through the community.

(2) To obtain from a soldier who has recently contracted syphilis, the name of the woman from whom he has contracted the disease. These names should be addressed to the Prefect of Police, who should return to the military authorities the result of the examination. Such a course would reveal many centres of contamination. It is frequent in the army to see many men of the same corps, contaminated from the same source. One military surgeon communicated three cases in which eight, ten and twenty-two men had been infected by the same female.

(3) To formally forbid the presence of soldiers in the wine and liquor shops.

(4) To remove everything like punishment from the military prophylaxis of syphilis.

(5) To suppress the custom of consulting the surgeon in public and make the consultation and examination strictly private. At present the military surgeon sees his patients in the presence of others of the same corps, and the publicity induces many men to conceal their malady as long as possible.

(6) To institute a special service of police about the great camps.

(7) To maintain a system of externe service, by which soldiers shall have continuous treatment for their disease after the severe symptoms which sent them to the hospital have passed.

As a last point of prophylaxis, it is proposed to make an attempt to do something for the protection of nurses from infection from nurslings. At present, when for any reason the mother does not nurse her own infant, and hires a wet-nurse, it is customary to require the nurse to submit to a medical examination, to establish chiefly her freedom from syphilis. The nurse is equally liable to be infected from the nursling, but no nurse is in a position to demand guarantees from her employers of their health and that of their child. If it is a possible thing to accomplish, society ought to afford the nurse the protection she cannot demand for herself. It is scarcely to be hoped that such reciprocal guarantees can be generally demanded, since most contracts between nurse and family are strictly private in their nature, and, for the most part, the nurse is content without any guarantee. But many of the wet-nurses of Paris are obtained through intelligence-offices, which are strictly under police control. For nurses obtained through the medium of these offices, it is possible to obtain a certain protection by the enactment of such a regulation as the following: No one is permitted to take a wet-nurs from any intelligence-office, except upon the presentation of a medical certificate guaranteeing the nurse against infection, which can be transmitted by the nursling, and the certificate should read somewhat as follows: "I, the undersigned, doctor of medicine, etc., certify that to the best of my knowledge and belief, the parents of the infant, X., who have been under my medical care since ———, are not infected with any inheritable malady which can be transmitted to the nurse suckling the said infant."

The Commission do not believe that any physician would falsely sign such a certificate. Syphilitic families would then be obliged to seek nurses outside of the intelligence-offices, and some would be deterred from such search, and there is room to hope that the greater number of nurses would be attracted by the protection given by the medical certificate, and perhaps, after a time, other nurses outside the offices would be led to demand similar guarantees. The effect of such a regulation would not entirely abolish the infection of nurses by nurslings, but it would diminish the number of such unfortunate infections, and is preferable to leaving the matter without any attempt at regulation.

TREATMENT OF INFANTILE DYSPEPSIA BY LACTIC ACID. THE CAUSATION OF THE GREENISH DISCHARGES WHICH CHARACTERIZE THIS AFFECTION.

HAYEM, in charge of the Children's Department of St. Antoine Hospital, in a communication recently made to the Academy of Medicine,[1] claims signal success in the treatment of gastro-intestinal irritations of infants, especially such as are attended with green discharges, by lactic acid. He employs a two per cent. solution, of which a teaspoonful is given to the infant a quarter-of-an-hour after nursing. From five to eight such doses, representing about half-a-gramme (or seven-and-a-half grains) of pure lactic acid are administered during the twenty-four hours. The effects of this treatment, it is said, rapidly show themselves. The vomiting (where vomiting exists) ceases almost immediately, the diarrhœa lessens in frequency and amount, and the discharges soon take on their natural yellowish hue.

Hayem was led to adopt an acid treatment in these cases from having frequently tested the vomited and fæcal matters, and found them neutral or alkaline. In these discharges, moreover, he detected the constant presence of a strange microbe, clustering in masses. This microbe he has been able to isolate and cultivate in gelatine-peptone, and, by experimental researches undertaken with his interne, Lesage, he thinks that he has conclusively shown that these masses of bacteria produce the greenish matter by a sort of excretion. This microbe, moreover, can only live and multiply in an alkaline medium, and the etiological conditions which bring about the gastro-intestinal dyspepsia of infants, by modifying the secretions of the alimentary canal, make it a fit habitat for the microbe, which now becomes the principal factor in the graver accidents which characterize the disease. These micro-organisms, it has been found, soon perish in an acid medium.

Hayem first tried dilute hydrochloric acid with some success, but soon found that lactic gives the best results. This acid, he says, acts in two ways: it combats the dyspeptic condition by giving the stomach the degree of acidity required for healthy digestion, and it sterilizes the germs of the bacillus, thus effectually antidoting the pernicious effects of the latter on the digestive tube. Lactic acid is, moreover, pleasant and easy of administration.

The contagiousness of this gastro-intestinal affection with green discharges is a natural corollary from the fact, real or assumed, of its bacillary origin. This contagiousness, Hayem affirms, is proved beyond the possibility of a doubt by clinical experience, and when once a case of the kind enters the wards of the children's hospitals, an epidemic of the disease is sure to follow.

Recently, at a meeting of the Academy (May 31st)[2] Damaschino claimed priority over Hayem in the discovery of the microbe supposed to be the causal agent in the diarrhœa with green discharges in young children, and produced micro-photographs which he presented three years ago to the Society of Biology, and which he affirmed to be representations of the same microbe described by Hayem as causative of the disease in question. These bacilli are of characteristic forms and dimensions, and constitute an important morphological element of the stools of young diarrhœic patients. They are the more numerous, the more severe the affection, and in three grave cases of green diarrhœa, they presented the appearance of pure cultures in the microscopic preparations. In the fresh state, they are animated by rapid movements. These bacilli disappear as the disease diminishes in intensity, and the discharges take on their natural yellowish hue.

Hayem, in replying to the communication of Damaschino, did not deny the value of the discovery of the latter investigator, of which he (Hayem) was ignorant at the time of the presentation of his paper, only Damaschino had not proved any causal relation between the masses of rod-like forms which he had found in the green discharges of infantile diarrhœa and the disease. This proof, Hayem claimed, had been furnished by his interne, Lesage, who had isolated and cultivated the specific microbe, and, by introducing the pure products of his cultures into the digestive canal of animals, had reproduced the disease, with the identical green discharges. The report of these interesting experiments Hayem has promised to give at an early day.

THE BOSTON MEDICAL LIBRARY ASSOCIATION.

THE JOURNAL always takes pleasure in referring to the Medical Library, as it regards it as one of the chief powers at work in Boston for the elevation of the profession. The last report of its enterprising librarian shows that the remarkable growth of the library continues and that its capacity for usefulness has greatly increased. In the last two years the total number of volumes has increased to 17,124, and the pamphlets from 12,289 to 14,832. The library is

[1] Bull. Gen. de Thér., May 30, 1887.

[2] Semaine Medicale, June 2, 1887.

evidently to maintain its fulness in periodicals as several hundred volumes which will serve to complete some of the most valuable series, have been obtained by the librarian in England and France and will be received during the coming year. The value of the principal periodicals of the world is increasing each year as the War Department publishes its annual volume of the Index Catalogue. While the Boston Library is very far indeed from containing all the periodicals indexed by that wonderful catalogue, it is a constant surprise to see the very large files of journals it places at the command of the student.

The library, books, pamphlets and periodicals, has been catalogued and the catalogue is to be kept even with the occasions. It is a matter of surprise that the library has never received any gifts of money as such, but notwithstanding, it owns its building, and has a small fund, which generous donors might well increase.

There is one drawback to the usefulness of the library. It is hardly possible to find a quiet spot for reading where one is not liable to be disturbed by the inevitable noise inseparable from so busy a place. The directory for nurses which is located in the same building, and of which the assistant librarian is the registrar, introduces many non-medical persons into the building, and somewhat destroys the quiet which ought to reign in a library. A larger building and one better adapted to the present and prospective wants of the library association, is a necessity that must soon be supplied. It would be a graceful act for some one to show appreciation of the profession by enabling the library to acquire a proper building in the near future.

MEDICAL NOTES.

— There have been several new cases of yellow fever at Key West recently, and two deaths. Up to July 10th the record shows, total cases, 83; deaths, 27; sick, 33; discharged well, 23.

A temporary refuge station is being established by the Marine-Hospital Service at Egmont Key, where ten days' detention will be required; also disinfection of baggage. The health officer of Philadelphia has ordered all vessels from infected ports, including at present Key West, to report at the United States Quarantine Station at Delaware Breakwater before coming into the Philadelphia Quarantine Station on the Delaware River. The health officer at Camden, N. J., has issued a similar order.

— The Medico-Legal Society of New York, at its May Session, upon the recommendation of its Executive Committee, unanimously authorized two prizes to be announced. First, of $100.00; second, of $50.00, for the best paper on any Medico-Legal subject, to be awarded by a committee to be selected by the President of that body.

— Professor Esmarch, of Kiel, who years ago married the aunt of the Crown Prince of Germany, and who is said not to have had the warmest of welcomes by the august family into which he married, has at last been knighted. Gossips further affirm that the love-match between the Princess Henrietta and the young professor has been productive of far more domestic happiness than has fallen to the lot of most of the other Hohenzollerns.

— The following passage occurs in a very pretentious paper on the "Progress of Science from 1836 to 1886," by Grant Allen, in the *June Fortnightly*: "Anæsthetics are almost entirely a growth of our half-century: chloroform was first employed in operations by Simpson, in 1847, and the use of other similar agents is still more recent." One is at first inclined to think that surely such a misstatement must be intentional, but a little reflection shows that it would be absurd to make such a blunder on purpose, so we must ascribe it to ignorance, and offer the editor of the *Fortnightly* our sympathy. If he has not yet paid for the article, we think he would be justified in making a deduction.

— The *Detroit Tribune* recently published a highly picturesque account of the way in which a female physician fathomed the fraud of a young man who had been simulating hæmorrhage from the lungs, in order to secure sympathy from his associates at a fashionable boarding-house, and cash from his relatives. In one of these pretended attacks, a female physician resident in the house was quickly called. "Her practised eye," says the account, "quickly took in the situation of things. As she approached him, she saw the red stains on the handkerchief and the linen of the young man, and she also saw that the blood-corpuscles, although generically allied to the prostrate patient, were distinctively different, inasmuch as they belonged to the species with four legs, instead of two. She astonished the self-imposed nurses by asking the patient where he got the lamb's blood which he had just spit out of his mouth?" If the "practised eye" can do all this without a microscope, what cannot its owner accomplish with the aid of a good lens?

NEW YORK.

— The effect of the recent hot weather was quickly shown in the mortality lists of the city. The reports of the Bureau of Vital Statistics show that during the week ending July 2d, there were 1,024 deaths, against 788, the week before. The greatest increase was, of course, among children under five years of age; from diarrhœal diseases; and a considerable number of deaths were also due to direct insolation. During the week there were very few cases of contagious diseases reported, excepting as regards diphtheria, of which there were 132 cases.

— During the same week there were 520 deaths reported in Brooklyn, a higher mortality than that city has known for years. More than half of the entire number were in young children, 352, and 190 of these were due to diarrhœal diseases. Ten physicians have recently been appointed to inspect the tenement districts of Brooklyn.

— During the six months ending June 30th, there were reported in the city of New York 19,312 deaths, and 15,442 births; an increase of 1,731 deaths and 439 births as compared with the figures of the first six months of 1886. Since the first of January, 1887, there have been reported over 1,000 deaths from diphtheria, an average of 43 per week. One great cause of the prevalence of this disease is no doubt the almost complete disregard of the section of the Sanitary Code, which requires that the bodies of persons dying from contagious diseases shall be buried within twenty-four hours after death, and that the funeral must be private, and instances were known to the health authorities in which wakes were held over children who died of diphtheria. One of these was in a large apartment-house, and is said to have been attended by the servants of many of the families living in it.

— Mayor Hewitt has appointed Dr. Joseph D. Bryant, Professor of Anatomy and Associate Professor of Orthopædic Surgery, at Bellevue Hospital Medical College, Health Commissioner to succeed the late Dr. Woolsey Johnson. He was formerly a sanitary inspector in the health department, and is at present surgeon-general of the State; having been appointed to that position by Governor Cleveland, and re-appointed by Governor Hill.

— At a meeting of the Board of Education, held July 5th, the committee on course of study and school books, presented a report in favor of the introduction of manual training into the public schools, the consideration of which, however, was deferred until September. The Committee says that "it is a matter of deep regret, and even of apprehension, that a large proportion of our young people are growing up with a positive distaste for manual labor. On the other hand, the introduction of manual training into many of the schools and higher educational institutions of the country, has already begun to exert an influence toward bringing about a better state of things." It is estimated that the expense of introducing and maintaining manual training, in accordance with the plans recommended by the committee, will be $128,500 for the first year, and $89,500 for each year afterward.

— Twenty-one families were made ill, though none of the cases of sickness seem to have been very serious, on the 4th of July, by ice cream procured from a well-known and reliable confectioner on Sixth Avenue. It was ascertained that all these families were supplied from a particular freezing, and Dr. Cyrus Edson, of the Board of Health was requested to make a thorough examination of the matter and also of the confectioner's establishment and processes of making ice-cream. Dr. Edson is of the opinion that the cases of sickness were due to tyrotoxicon generated in the milk by decomposition after the cream was made, and has given a sample of the cream to Mr. E. N. Martin, of the School of Mines, Columbia College, for analysis.

—A decision just handed down by the Court of Appeals, in the case of the people against Charles Kibler, of Buffalo, is regarded as of considerable importance. The defendant was indicted for selling milk adulterated with water, and at the trial it was proved that the milk sold did not reach the standard required by the statute. The defence was that the seller had bought the milk from a wholesale dealer, and that as he supposed it to be pure and acted in good faith, he could not be convicted. The question before the Court of Appeals was, whether a person could be convicted of a criminal charge when he believed he was doing nothing wrong, and by the affirmation of the judgment of the General Term of the Supreme Court, the higher court has established the law of the State to be that the question of knowledge and intent is no defence to a charge of violation of a statute, and that a person who sells milk or butter must know just what he is selling.

— Keepers James McHugh and Patrick Cleary, of City Insane Asylum on Ward's Island, who were recently charged by a coroner's jury with the responsibility of the death of one of the inmates, by the name of Farrish, have been indicted by the Grand Jury for manslaughter in the first degree.

Miscellany.

CORROSIVE SUBLIMATE IN TYPHOID FEVER.

DR. GLÄSER, of Hamburgh, after a communication by Gruffenberger in the *Berliner klinische Wochenschrift* for 1885, setting forth the beneficial results of corrosive sublimate in typhoid fever, resolved to make a trial of it. According to his experience, corrosive sublimate does not possess the virtues ascribed to it, such as immediately lowering the temperature, causing the tongue to become soft, etc. Dr. Gläser carried out a comparison of similar cases: the one series without corrosive sublimate, the other series treated with it. By studying the curves of the cases, twenty-three in all, in which the pulse and temperature are given, one can observe at a glance that the administration of corrosive sublimate never reduced the temperature and rate of pulse immediately. This failure was deemed more striking when two similar cases were examined presenting precisely similar courses, the one with and the other without corrosive sublimate. According to Dr. Gläser, the drug does not in the least diminish the mortality. Another point of note in this paper is the estimation of the percentage of corrosive sublimate in the blood, which is infinitely too small for it to exert any influence whatever on any micro-organism that might be present and cause the disease. Its beneficial influence, therefore, if any, cannot be attributed to this particular effect.— *Practitioner, June,* 1887.

OPERATIONS ON THE BRAIN.

ACCORDING to the London correspondent of the *Philadelphia Medical Times*, Mr. Victor Horsley has published statistics of the first ten cases in which he has operated on the brain. The first operation was

performed in May 25, 1886, the last on December 17, 1886. Two of the patients have died; one six months after operation, from recurrence of the tumor; the other nineteen hours after the operation, which was performed as a last resort in a hopeless case of widespread paralysis due to cerebellar tumor. As to the wound, immediate union took place in every case, excepting of course the patient who died in nineteen hours. Mr. Horsley is thus fully justified in claiming that the operation of exposing and removing considerable portions of the brain is not to be ranked among the "dangerous" procedures of surgery. Before operating, morphine is administered, and it is found necessary to use very great care in the subsequent inhalation of chloroform, as dangerously deep narcosis may easily be induced, especially in children; the object in giving the morphine is to produce contraction of the cerebral arterioles in order to diminish hæmorrhage. Special care is taken to fashion the scalp flap (for the old crucial incision is abandoned) so as to preserve either the temporal or the occipital arteries, and the periosteum is reflected along with the cutaneous structures. The bone is first of all attacked with the trephine, and the aperture in it is enlarged with a circular saw driven by a "surgical engine" (dentist's). After excising the tumor, cyst or cicatrix the flap is replaced and completely sewn up, except for one inch at the most dependent part, where excess of fluid can drain away, but a drainage-tube is not used. "I am more than ever convinced," says Mr. Horsley, "that the arachnoid, like the peritoneal cavity, may be trusted to absorb excess of fluid." Strict Listerism is observed for the first four or five days, or until the wound is healed.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 2, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Measles.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	1024	644	38.88	8.46	.45	6.21	29.70
Philadelphia	993,801	--	—	—	—	—	—	—
Brooklyn	745,108	520	183	43.52	6.27	1.52	4.37	36.10
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	219	152	44.62	9.20	.46	1.38	40.94
Boston	400,000	173	64	12.88	16.24	4.48	1.12	3.36
New Orleans	242,750	111	44	19.80	15.30	.09	.18	10.80
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	117	70	39.95	8.55	.85	.85	30.60
Pittsburgh	210,000	130	88	43.89	.77	3.08	2.31	30.80
Montreal	186,257	64	31	15.63	11.92	—	1.56	8.80
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	15	2	26.64	26.64	—	—	13.32
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	15	3	26.64	26.64	—	6.66	6.66
Worcester	68,383	29	17	34.48	3.45	—	—	34.48
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,990	—	—	34.48	3.45	—	—	34.48
Fall River	56,863	26	15	24.96	12.48	4.16	4.16	16.64
Lynn	45,861	16	3	6.25	18.75	—	—	6.25
Lawrence	38,825	19	5	15.78	5.26	—	—	5.26
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	8	4	12.50	—	—	12.50	—
Somerville	29,992	10	4	40.00	10.00	—	—	10.00
Salem	28,084	17	8	—	5.88	—	—	—
Holyoke	27,894	13	—	38.45	7.69	—	7.69	30.76
Chelsea	25,709	6	2	—	33.33	—	—	—
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	1	16.66	—	—	—	16.66
Brockton	20,783	5	1	20.00	—	—	—	20.00
Newton	19,759	6	3	33.33	—	—	—	33.33
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	5	0	20.00	20.00	20.00	—	—
Waltham	14,609	2	0	—	50.00	—	—	—
Newburyport	13,716	8	1	—	12.50	—	—	—
Northampton	12,896	4	0	50.00	—	—	—	—

Deaths reported 2,622: under five years of age 1372; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1,467, consumption 241, lung diseases 123, diarrhœal diseases 738, diphtheria and croup 109, measles 29, scarlet fever 21, typhoid fever 18, malarial fever 18, cerebro-spinal meningitis 11, whooping-cough 11, erysipelas eight, puerperal fever four. From scarlet fever New York 12, Brooklyn five, Somerville two, Boston and Pittsburgh one each. From typhoid fever, District of Columbia and Pittsburgh four each, New York three, Brooklyn two, Boston, New Orleans, Milwaukee, Nashville and Lawrence one each. From malarial fever, New York six, New Orleans four, Baltimore and District of Columbia three each, Richmond two. From cerebro-spinal meningitis, New Orleans and Milwaukee two each, New York, Boston, District of Columbia, Nashville and Salem one each. From whooping-cough, Boston four, New York and Pittsburgh two each, Brooklyn, Richmond, and Lawrence one each. From erysipelas, New York four, Brooklyn two, District of Columbia and Milwaukee one each. From puerperal fever, Pittsburgh three, Baltimore one.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending June 18th, the death-rate was 18.4. Deaths reported 3,252: infants under one year of age 772; acute diseases of the respiratory organs (London,) 213, measles 226, whooping-cough 132, diarrhœa 49, scarlet fever 41, diphtheria 26.

The death-rates ranged from 12.2 in Derby to 28.5 in Manchester; Birmingham 13.4; Hull 19.6; Leeds 18.9; Leicester 14.6; Liverpool 20.7; London 17.2; Nottingham 16.1; Sheffield 21.1; Sunderland 19.7.

In Edinburgh 18.4; Glasgow 21.6; Dublin 26.7.

The meteorological record for the week ending July 2, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, July 2, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ...26	30.23	66.0	75.0	59.0	65.0	60.0	61.0	62.0	N.W.	E.	N.	4	6	5	F.	F.	C.		
Monday, ...27	30.26	66.0	73.0	58.0	63.0	51.0	73.0	62.0	N.	S.E.	W.	12	6	9	C.	O.	C.		
Tuesday, ..28	30.23	70.0	79.0	59.0	65.0	52.0	72.0	63.0	N.W.	S.E.	S.W.	9	7	10	F.	C.	C.		
Wednes,,.. 29	30.17	76.0	89.0	64.0	64.0	50.0	67.0	60.0	W.	S.E.	W.	6	4	12	C.	C.	C.		
Thursday, 30	30.11	79.0	87.0	68.0	67.0	41.0	55.0	54.0	W.	E.	W.	8	6	8	C.	C.	C.		
Friday, ... 1	30.04	82.0	93.0	71.0	59.0	42.0	73.0	58.0	W.	W.	S.	12	6	12	C.	O.	C.		
Saturday,. 2	30.00	83.0	95.0	72.0	71.0	46.0	73.0	63.0	W.	W.	W.	8	18	13	C.	F.	C.		
Mean, the Week.	30.148	74.5	84.0	75.0				60.3											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 25, 1887, TO JULY 8, 1887.

SUTHERLAND, CHARLES, colonel and surgeon. Granted one month's leave of absence, with permission to apply for an extension of one month. S. O. 126, Division of the Atlantic, June 23, 1887.

SMITH, A. K., lieutenant colonel and surgeon. Will be relieved from duty at West Point, N. Y., on September 30, 1887, instead of on August 28, 1887. S. O. 144, A. G. O., June 23, 1887.

MCKEE, J. C., major and surgeon. Granted three days' leave. S. O. 149, A. G. O., June 29, 1887.

ALDEN, C. H., major and surgeon. Leave of absence extended to include September 29, 1887. S. O. 144, A. G. O., June 23, 1887.

TREMAINE, WM. S., major and surgeon. Ordered for examination by Army Retiring Board, at Governors' Island, New York Harbor. S. O. 151, A. G. O., July 1, 1887.

SKINNER, J. O., captain and assistant surgeon. Granted leave of absence for four months, on surgeon's certificate of disability. S. O. 151, A. G. O., July 1, 1887.

HARRIS, H. S. T., first lieutenant and assistant surgeon. Will be relieved from duty at Fort Ringgold, Tex., upon the return of Assistant Surgeon W. T. Carter, and will then report to commanding officer at Fort McIntosh, Tex., for duty. S. O. 73, Department of Texas, June 27, 1887.

BEALL, GEORGE T., captain and medical storekeeper. Granted four months leave of absence. S. O. 150, A. G. O., June 30, 1887.

CHERBOUNIER, A. V., captain and medical storekeeper. Directed to take charge of office and perform duties of acting assistant medical purveyor, in St. Louis, Mo., during absence on leave of Captain George T. Beall, medical storekeeper, now performing those duties. S. O 150, A. G. O., June 30, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE TWO WEEKS ENDING JULY 9, 1887.

DEANE, C. W., passed assistant surgeon. Ordered to the Naval Rendezvous, San Francisco, Cal.

HARRIS, H. N. T., assistant surgeon. Ordered to the Naval Hospital, Mare Island, Cal.

GORGAS, A. C., medical director. Remain on present duty until December 31, 1887.

CLEBORNE, C. J., medical inspector. Remain on present duty until December 31, 1887.

MACKEY, BENJ. F., surgeon. Remain on present duty until December 31, 1887.

BROWNE, J. MILLS, medical director. Will remain on present duty as Member of Retiring Board until June 30, 1888.

DEAN, RICHARD C., medical director. Will remain on present duty as Member of Retiring Board, until June 30, 1888.

HUDSON, A., medical inspector. Detached from the "Trenton," and wait orders.

SCOFIELD, W. K., medical inspector. Ordered to relieve Medical Inspector Hudson on the "Trenton."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING JULY 2, 1887.

ARMSTRONG, S. T., passed assistant surgeon. Relieved from duty at Marine Hospital, Memphis, Tenn.; ordered to Marine Hospital, New York, N. Y., June 27, 1887.

PECKHAM, C. T., passed assistant surgeon. Relieved from duty at Marine Hospital, Wilmington, N. C.; ordered to Marine Hospital, Memphis, Tenn., June 27, 1887.

GLENNAN, A. H., passed assistant surgeon. Ordered to Revenue Cutter "Crawford," for temporary duty, June 30, 1887.

BROOKS, S. D., assistant surgeon. Ordered to examination for promotion, June 27, 1887. Relieved from duty at Evansville, Ind.; ordered to Marine Hospital at Wilmington, N. C., June 27, 1887.

CORRECTION OF CAMBRIDGE COMMENCEMENT PROGRAMME.

We are requested by the Secretary of the Medical Faculty of Harvard University to insert the following:

By mistake the name of Wm. H. Prescott was sent instead of William Abbott Phillips, Ph. B., for honorable mention on the Commencement Programme at Cambridge, for a thesis entitled "Fracture of the Patella."

BOOKS AND PAMPHLETS RECEIVED.

Announcement of Gross Medical College of Denver. Session 1887-88.

Twenty-Third Annual Report of the Overseers of the Poor of the City of Boston, for the Financial Year 1886-87.

On the Treatment of Diphtheria and Dyspepsia, by "Papoid." Being a *résumé* of our present knowledge of the drug. Johnson & Johnson. New York.

Lecons de Cliniques Chirurgicale par Jerrillon. Agrégé de la Faculte de Medicine, etc. Redigées par M. le Dr. Routier. Paris. Publications du Progrès Medicale. 1887.

Medicine and Medicine-Men. Anniversary Address delivered at the Banquet of the Louisville Medical Society, May 26, 1887. By John Godfrey, Surgeon, M. H. S. Louisville, Ky., 1887.

A Case of Incomplete Abortion in Twin Pregnancy. One Fœtus lost at Third Month, but its Placenta retained to Delivery at Term of the other Twin. By Stanley P. Warren, M.D., Portland, Me. 1887. (Reprint.)

Transactions of the New York State Medical Association for the Year 1886. Volume III. Edited for the Association by Alfred Ludlow Carroll, M.D., of Richmond Co. Concord, N. H.: Republican Press Association. 1887.

Speech of Señor Don Matias Romero, Mexican Minister at Washington. Read on the Sixty-fifth Anniversary of the Birth of General Ulysses S. Grant, Celebrated at the Metropolitan Methodist Episcopal Church, of the City of Washington, on the 25th of April, 1887.

Manual Pratique de la Garde-Malade et de L'Infirmière publié par le Dr. Bourneville, avec le Collaboration de MM. Blondeau, De Boyer, Ed. Brissaud, Budin, H. Duret, etc. Tome I. Anatomie et Physiologie. Third Edition, Revue et Augmentie. Tome II. Pansements. Tome III. Femmes et Couches — Medicaments. Petit Dictionaire. Publications du Progrès Médical. 1887.

Original Articles.

ANALYSIS OF ONE HUNDRED AND FORTY-ONE CASES OF PREGNANCY WITH REFERENCE TO THE DIAGNOSTIC VALUE OF THE BLUE COLOR OF THE VAGINA.[1]

BY JOHN W. FARLOW, M.D.

In looking over the varied opinions of medical authorities on this subject, it has seemed to me that there must be some good reason for this diversity of opinion. To me, a very possible explanation is that the vulva and vagina are not sufficiently examined. In the ordinary bimanual examination to determine the existence of pregnancy, the color of the vagina is not inquired into, and, particularly where the patient is examined on the side, it is easy to see how the color of the vagina might escape observation entirely. If a sufficient number of cases are carefully examined, we shall soon be in a position to make up our minds as to the value of the blue color of the vagina, especially when found on the anterior wall.

I have looked over my records, and tabulated one hundred and forty-one cases of pregnancy, which I examined with regard to this point. In this table, I have not included a number of cases where the diagnosis was doubtful, but only those where a birth or miscarriage subsequently took place, or where the future history left no doubt in the matter.

The inspection of the vulva and vagina was made in all cases before determining the increased size of the uterus. I divided the cases into three classes: (1) Those where there was no blue color of the vaginal orifice or urethra. (2) Those where the blue color was slightly marked, and not limited to the anterior vaginal wall or around the urethra. (3) Those where the color was markedly blue or violet, or where even a less marked blue was limited to the anterior vaginal wall or the urethra.

The following table shows in how large a proportion of cases, even in the early months, a blue color, at least, suggestive, if not characteristic, was present. In half the number, it was regarded as characteristic, and of the remaining seventy-one, one-half were suggestive. Thirty-six cases are regarded as showing no blue tinge.

TABLE OF 141 CASES OF PREGNANCY.

How Long Pregnant.	No Blue Color.	Suggestive.	Characteristic.	Total.
6 weeks	1	1	..	2
2 months	11	10	1	22
2½ "	5	3	..	8
3 "	12	5	11	28
3½ "	1	1	1	3
4 "	1	8	10	19
4½ "	3	4	7	14
5 "	..	1	15	16
5½ "	..	1	4	5
6 "	1	..	11	12
6½ "	..	..	1	1
7 "	1	..	3	4
8 "	..	1	6	7
	36	35	70	141

Let us now examine a little in detail the column marked "no blue color," and see if we can make out any reason for its non-appearance. The case where the color was absent at seven months was a patient with chronic eczema of the vulva, and the entrance of the vagina, as well as the whole vulva, was intensely red, and the skin was glazed and cracked. The case where there was no blueness at six months was one of secondary syphilis, and was soon followed by a miscarriage. At four-and-one-half months are three cases, where there is no blue color. One was a case of eczema, where the vulva and vaginal orifice were much excoriated and pigmented. The prevailing color was quite red. Another case had previously had three miscarriages, and two months before I saw her, that is, when she was two-and-one-half months pregnant, she had a hæmorrhage from the uterus. The third patient had had gonorrhœa a few months before. At four months, is one case of absence of blue color. The introitus was red, and the cervix and body were harder than is usually the case, and at first I was inclined to think it might not be pregnancy, but a possible fibroid.

The patient who had no blue color at three-and-one-half months was apparently about to miscarry, as she was having pains, the os was dilating, and there was some hæmorrhage.

At three months there are twelve cases. In one, there was a slight hæmorrhage two weeks before. One had gonorrhœa. One became pregnant while nursing a baby thirteen months old. The pelvis, particularly Douglas's pouch, was tender. In another, the perineum was torn into the rectum, and the introitus was a firm cicatrix. The broad ligaments were very hard. In the other eight cases, nothing unusual is noted.

Of the five cases at two-and-one-half months, two had flowed several times before I saw them.

At two months, we have eleven cases. In four the uterus was retroverted. In one the clitoris and labia were large, wrinkled, and pigmented, suggesting masturbation. In two, an eczema caused a red and excoriated vulva and introitus. In another, the labia minora were bluish, but not the vagina. In still another, an erosion of the cervix existed, with marked leucorrhœa and a red vagina. I have no details as to a possible cause in the other two cases.

The case of absence at six weeks was a patient who had weaned her baby the week before.

Let us now turn to the column marked "suggestive." The one case at eight months was suffering from secondary syphilis. At five-and-one-half months is a case without special history. The one at five months became pregnant when her baby was six months old. One at four-and-one-half months became pregnant when her baby was three months old. One at four months had syphilis, and had had several miscarriages. Among the suggestive cases of a still earlier period, I find one case of bloody leucorrhœa and one of cervical polyp. The rest were apparently normal.

If we now return to the "no blue color" column, and sum up what has been noted, we shall find four cases of eczema, one of syphilis, four of recent hæmorrhage, two of gonorrhœa, two pregnant while nursing young babies, four retroverted uteri, one extensive cicatrix of perineum, one possible masturbation, with resulting pigmentation, one eroded cervix — eighteen cases in all, or one-half the cases in this column.

In the "suggestive" column, we find two cases of syphilis, one of recent hæmorrhage, two nursing young

[1] Read before the Section of Obstetrics and Gynæcology of the Suffolk District Medical Society, March 16, 1887.

babies, one cervical polyp, recently removed — six in all. In the two columns together, are three cases of syphilis, five of recent hæmorrhage, and four of nursing young babies.

Can these conditions be considered as influencing in any way the color of the vagina? The blueness is due to hypertrophy of the venous plexuses of the vagina, and is not a pigmentation. It seems reasonable to infer that whatever affects the blood-supply of the vagina, or changes the character of its mucous membrane, might have a marked influence on the color of these bloodvessels, as seen through the vaginal mucous membrane. A uterine hæmorrhage, polyp, or threatened miscarriage might cause a decided change in the amount of blood in the pelvic bloodvessels. I have certainly seen a well-marked blue color disappear after a threatened miscarriage, where there was considerable hæmorrhage, to reappear later. For the same reason, we should not expect the color in cases of bleeding fibroid in an unimpregnated uterus, and, in case of pregnancy, might not the color appear later than usual?

In regard to syphilis, it is so common a disease that I do not know whether it has any causative effect in this instance or not. It certainly modifies the color of all eruptions on skin or mucous membrane, and it may have had a similar effect in my cases.

Eczema existed in four cases, and I think it very conceivable that the eczematous color should so predominate as to mask the blue color. In the same way, a gonorrhœa or vaginitis might obscure the color.

Whether retroversion has any effect, I do not feel that I can draw any conclusion from four cases. The circulation in a displaced uterus is certainly disturbed, but whether this extends to the veins of the vagina I have never seen stated.

In regard to those who nursed young babes, I do not think it is of importance, for I have seen the blue color well marked in a number of such cases.

The conditions in the other cases noted I shall not have anything further to say about.

Now the question arises: does a marked or so-called characteristic blue color exist where there is no pregnancy, and how often? I have notes of three cases where the color was almost characteristic, and one where I deemed it *quite* so. The first had a blue color universally distributed over the introitus. The second had a blue tinge near the urethra. This was a case of fistula in ano. The next had a blue sheen over the whole introitus, and the last case showed a marked blue color on and at the side of the urethra. This patient had a long, hard cervix, and suffered from dysmenorrhœa. I dilated her cervix a month ago, with great relief to the menstrual pain. I saw her yesterday, and found that the blue color had extended up the urethra and anterior vaginal wall. The uterus was perceptibly enlarged, and she has had some nausea in the morning. Menstruation is expected in a day or two, and possibly she is pregnant. I shall watch for the blue color with interest.[2]

These notes are taken from the records of about two thousand gynæcological cases, and when we compare the table of cases of pregnancy with the facts as I have stated them in regard to the non-pregnant cases, to my mind it leaves no doubt of the value of this diagnostic sign. Among these cases, there have been, of course, fibroids, ovarian tumors, large ovaries, uterine displacements of all kinds; in fact, the cases that are usually found among so large a number of cases, but in only the four which I have detailed was the color in the least characteristic.

I have also had occasion to notice its absence in many cases of women who supposed themselves pregnant, but who were not so. Where I have used the word blue or markedly blue in this paper, wine-color or violet, would, in some cases, be more appropriate. I have examined for it with the patient on her back, and with my fingers I have separated the folds of vagina, so as to get a good view, particularly of the anterior wall of the vagina, and in some cases I have used the speculum. In private practice, and under many circumstances, it is a mode of observation that cannot be undertaken. My attention was first particularly directed to this point by Dr. J. R. Chadwick, seven years ago. I have endeavored, in my gynæcological clinic, to see if my cases threw any light on the subject.

[2] I have seen this patient since the above was written. She menstruated without pain three days after I saw her before. The blue is not quite as marked as it was just before menstruation.

SUPPLEMENTARY OVARIES.[1]

BY JOHN HOMANS, 2d, M.D.

THE short paper which I am about to read this evening does not contain much original work or present any very startling matter for your consideration, but it is written to call the attention of the section to a few facts which it seems have not received the consideration that they merit.

These facts may seem rather small and insignificant, but my excuse for presenting them to you is, that attention to minuteness and carefulness of detail is thought of more and more importance as medical science advances.

In the Richmond and Louisville *Medical Journal* for 1875, Dr. Goodman collected and published 27 cases of double ovariotomy by various native and foreign operators, in 10 of which the operation had no influence whatsoever on menstruation; in one the flow was increased and in one the function was irregularly performed.

Nearly forty per cent., therefore, of these cases, were not much affected by the removal of both ovaries. Since the publication of this paper, however, this high proportion of non-affected cases has not been maintained. As there have been 117 other cases collected, of which only 8 still menstruated after the operation, this makes a total of 144 accessible cases of double ovariotomy, of which 18 or nearly twelve per cent. were uninfluenced by the operation. The explanation of this apparent anomaly, may, I think, be found in the fact that many of these patients had supplementary ovaries.

Winkels' work on the "Pathology of the Female Sexual organs," gives a good figure, but no description of a supplementary ovary, and Waldeyer in his classical work on the "*Eierstock u. Ei*," refers, it is true, to small bodies occurring in the neighborhood of the ovary, which he calls "supra-ovarian bodies," but Dr. Hermann Beigel was the first to give an accurate description of the supplementary ovary in an article in

[1] Read before the Section of Obstetrics and Gynæcology of the Suffolk District Medical Society, March 16, 1887.

the *Wiener Med. Wochens.*, for 1877. In a series of 350 autopsies on persons of all ages, but chiefly adults, Beigel found eight cases of supplementary ovaries. In number they varied from one to three, but as many as six have been noted by another observer. They were either pediculated or were found lying free in the broad ligament. When pediculated they invariably are situated at the line of reflection of the peritonæum. The true ovary really lying more than half outside the peritoneal cavity. The pedicle is a true one, that is, it is composed of a coarse net-work of connective tissue without any follicular structure, and there is a sharp line of demarkation between the pedicle and the tissue, both of the normal and supplementary ovary. Microscopical examination of the latter shows normal ovarian tissue, in fact, gives a complete likeness in miniature of an ovary. They vary in size from the traditional millet seed up to that of a pea.

The fact that when pediculated they always are found attached to the line of reflection of the peritonæum, offers an explanation for their occurrence. Just at this point, according to the biologists, ciliated epithelium is found in all mammalia, and here also, Waldeyer says, the limits of the germinal epithelium (the Keim-epithel of the German embryologists) are not clearly defined and this epithelium is of variable dimensions. During the developement of the ovary a pocket in the irregular outline of the germinal epithelium becomes occluded and is cut off from what might be called the parent organ and thus, the anatomical requirements being all met, becomes the seat of a supplementary ovary.

Now in the majority of the before mentioned cases, in which spaying did not produce the menopause, the menses were only temporarily arrested, gradually returning more or less nearly to the condition existing before operation. These cases it seems to me may be fairly explained by the existence of supplementary ovaries which have slowly enlarged under the benign influence of the reparative forces of nature, and gradually taken on more and more of the functions of the normal organs. It is then, I think, evident that the surgeon who is about to operate for a bleeding fibroid or for the relief of "ovarian neuralgia" or of mental or moral symptoms, cannot be sure that he has extirpated *all* the primal cause of the distressing or alarming symptoms he is seeking to alleviate, when he has simply removed both ovaries. I do not intend to discuss the advisability of Battey's or Tait's operation, or the relation between ovulation and menstruation, but granting the two premises that, first, the former are proper and justifiable surgical procedures, and second, that the ovaries are active factors in menstruation.

I would in closing call attention to the fact that of the cases operated upon in accordance with these premises, from four to six per cent. cannot be in the least benefited because of a distinct anatomical reason.

ABNORMITIES, ETC., OF THE OVARY.

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A REPORT OF TEN CASES OF PHTHISIS TREATED WITH GASEOUS ENEMATA.

BY A. GASTON ROETH, M.D., BOSTON.

A VAST field for clinical investigation and research was opened to us when Claude Bernard showed in 1857[1] the action of toxic and medicinal agents when administered per rectum.

When this great teacher demonstrated the fact that hydrogen sulphide, H_2S, could be safely injected into the veins and rectum, afterwards to be eliminated by the lungs, he was followed by Bergeon and Cornil whose practical experiments, covering a number of years, were reported to the French Academy of Medicine in 1886.

The reports of these gentlemen well established the fact that hydrogen sulphide, when carried into the economy by means of carbon dioxide CO_2, played a most important rôle in its effects upon pulmonary disease of acute and chronic character, and especially under conditions where pulmonary suppuration and co-existing septicæmia were prominent and alarming symptoms.

These latter experiments were but the forerunners of many others calculated to place the treatment of pulmonary diseases, and especially of tubercular phthisis, by the gaseous enemata upon a sound and practical basis. How far they have succeeded I shall endeavor to show from the following ten cases, and as few statistics have as yet been offered the profession, although the system has been in use for some time at the Hospital of the University of Philadelphia, German Hospital and Home for Consumptives, I feel at liberty to give here the result of my observations in such shape that you may formulate your own conclusions.

The cases now under consideration were taken from the Boston Dispensary, where a careful diagnosis was primarily made by Dr. John Dixwell, their local lesions well defined, each patient carefully weighed and his general condition recorded. Their sputa were stained and examined, the number of bacilli found classified in accordance with Gaffky's scale, now accepted by bacteriologists as a standard of measurement for this bacillus. The same ground was gone over at the end of one month's treatment. I desire here to express my grateful thanks to Dr. E. W. Cushing, whose kindness in re-examining the specimens of sputa, both at the beginning and end of the treatment, leaves no shadow of doubt as to the correctness of each particular case classified.

It will be noticed that in spite of the bad hygienic surroundings in which these patients lived, every one apparently without exception destitute, yet, notwithstanding the unfavorable atmospheric conditions, the prevailing winds, easterly and cold, and all orthodox advice and medication having been suspended, and a steady and perceptible amelioration has been ob-

[1] Leçons sur les substances toxiques and medicamenteuses.

served in each and every instance. So far as the practical administration of the gas, its mode of preparation or quantity used is concerned, I have little to add to what has already appeared in the many articles heretofore published, both in the secular and medical journals, with the exception that my preference in natural sulphur waters is for the Ypsilanti spring of Michigan, as this water contains 21.0786 cubic inches per gallon of sulphuretted hydrogen, both liquid and free, more than any other that I know of; my next choice being the Blue Lick of Virginia, which contains 10 per cent. No bad effects have been noted, an overdose of the gas seems impossible, and no intestinal colic was produced when the quantity used was slowly injected. The time most favorable for the two daily enemata was found to be before meals, morning and afternoon.

CASE I. Julia N., aged thirty-one. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 110 lbs.	Weight 114½ lbs.
Temp. 100°.	Temp. normal.
Pulse 120.	Pulse 78.
Respiration ratio .26.	Respiration ratio normal.
Expectoration copious, and muco-purulent.	Expectoration, none.
Night sweats.	No night sweats.
Appetite poor.	Appetite good.
Bacilli, Gaffky's scale No. 2.	Bacilli, Gaffky's scale No. 1.
Cavity right infra clavicular space and right apex.	Broncho vesicular respiration decreased.

She states that she does not cough once during the night, spits but once in a while, is feeling splendid, better than for years. Sleeps all night; eats well.

CASE II. James P., aged forty-two. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 116½ lbs.	Weight 118½ lbs.
Temp. 98°.	Temp. 98°.
Pulse 86.	Pulse 86.
Respiration ratio 19.	Respiration ratio normal.
Expectoration copious, yellow and white.	Expectoration normal.
No night sweats.	No night sweats.
Appetite fair only.	Appetite good.
Bacilli, Gaffky's scale No. 1.	Bacilli, Gaffky's scale No. 1.
Cavity left apex front and back.	Small area of sibilant râles over left apex on expiration.
First stage phthisis.	

He states that he has improved daily. His appetite is good; sometimes spits but once a day. Feels a great deal stronger and better; sleeps well; cough less distressing, and does not keep him awake now. Is able to work at his trade of carpenter again.

CASE III. Arthur M., aged thirty-six. Hereditary.

At Beginning of Treatment.	
Weight 114 lbs.	Night sweats.
Temp. 99°.	Appetite fair.
Pulse 93.	Bacilli, Gaffky's scale No. 10.
Respiration ratio 15.	Cavity right apex and middle lobe.
Expectoration copious, hæmoptysis.	

After eight days' treatment he stated that he was much better. Sleeps better and never coughed less since he has been sick. He feels quite encouraged. Feels no more pain under his right nipple. At this period he ceased coming for treatment.

CASE IV. Richard M., aged thirty-seven. Hereditary.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 94½ lbs.	Weight 94½ lbs.
Temp. 99°.	Temp. 99°.
Pulse 72.	Pulse 72.
Respiration ratio 24.	Respiration ratio normal.
Expectoration copious and hæmoptysis.	No hæmoptysis and expectoration decreased.
Night sweats.	No night sweats.
Appetite bad.	Appetite good.
Bacilli, Gaffky's scale No. 2.	Bacilli, Gaffky's scale No. 1.
Cavities both apices, third stage.	Physical signs not much changed.

He tells me that he feels like a different man altogether. Does not feel so sore through his chest and has no steady pains as formerly. Is not spitting nearly so much, and has no night sweats now. He sleeps better. He does not cough at all during the night.

CASE V. John M., aged forty-six. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 130½ lbs.	Weight 132½ lbs.
Temp. 99°.	Temp. normal.
Pulse 103.	Pulse 74.
Respiration ratio 29.	Respiration ratio normal.
Expectoration copious, brown and green, no hæmoptysis.	Expectoration normal.
Night sweats and chills.	No night sweats.
Appetite fair.	Appetite good.
Bacilli, Gaffky's scale No. 1.	Bacilli, Gaffky's scale No. 1.
Recurrent pneumonia, right apex crumples, left solidified.	Right apex does not crumple, left respiration partially restored.
Anæmia and debility.	No râles, general condition improved.

He states that he feels better every time he comes. Does not spit at all. No night sweats; appetite good. Is a great deal stronger and can do many things now which he could not do a month ago. He now feels as if he could work at his trade of marble polisher. His breathing is as good as it was twenty years ago.

CASE VI. James R., aged twenty-six. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 125 lbs.	Weight 125½ lbs.
Temp. 99.1°	Temp. 99°.
Pulse 130.	Pulse 96.
Respiration ratio 21.	Respiration ratio normal.
Expectoration copious, yellow.	Expectoration slight.
Night sweats.	No night sweats.
Appetite poor.	Appetite good.
Bacilli, Gaffky's scale No. 2.	Bacilli, Gaffky's scale No. 1.
Cavities both lungs, moist râles, broncophony, wasting.	Small improvement in condition of lungs.

He states that his appetite is much improved. Feels considerably better; spits and coughs less. Sleeps all night; has no night sweats at all. Thinks he is improving under the treatment.

CASE VII. Louis S., aged forty-seven. Hereditary.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 134 lbs.	Weight 132 lbs.
Temp. 99°.	Temp. 98°.
Pulse 70.	Pulse 72.
Respiration ratio 20.	Respiration ratio normal.
Expectoration copious and hæmoptysis.	Expectoration decreased.
No night sweats.	No night sweats.
Appetite fair.	Appetite good.
Bacilli, Gaffky's scale No. 3.	Bacilli, Gaffky's scale No.— Improvement.
Cavity left apex back.	

He says that he feels altogether better and stronger. Does not cough or spit so much; says that if it were not for the bad winds, that he would gain flesh, as his appetite is improved.

CASE VIII. Daniel S., aged twenty-five. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 102½ lbs.	Weight 102½ lbs.
Temp. 99.2°.	Temp. normal.
Pulse 122.	Pulse 96.
Respiration ratio 27.	Respiration ratio normal.
Expectoration copious.	Expectoration decreased.
Night sweats.	No night sweats.
Appetite poor.	Appetite good.
Bacilli, Gaffky's scale No. 1.	Bacilli, Gaffky's scale No.—
Cavity right apex.	Condition of lung improved.

He states that the night sweats have entirely ceased, that he coughs only in the morning. Sleeps a great deal better; spits only in the morning, and much less, and that his appetite is better. Feels stronger.

CASE IX. Michael M., aged twenty-one. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 73½ lbs.	Weight 72½ lbs.
Temp. 99.1°.	Temp. normal.
Pulse 114.	Pulse 104.
Respiration ratio 21.	Respiration ratio normal.
Expectoration copious, yellow.	Expectoration less and lighter color.
No night sweats.	No night sweats.
Appetite fair only.	Appetite good.
Bacilli, Gaffky's scale No. 1.	Bacilli, Gaffky's scale No. —.
Cavity right apex and right base, has had phthisis six years. His breath is most offensive, and suggestive of gangrene of the lungs.	Left lung good, right about as before, but nothing more. General condition better. The fetor of his breath has materially decreased.

He says that he feels better and that his friends say that he is looking much better. Sleeps well and coughs less.

CASE X. Patrick McG., aged thirty-seven. No family history.

At Beginning of Treatment.	End of One Month's Treatment.
Weight 136 lbs.	Weight 139 lbs.
Temp. 98.3°.	Temp. normal.
Pulse 84.	Pulse 72.
Respiration ratio 40.	Respiration ratio normal.
Expectoration copious, thick, bloody.	Expectoration decreased and no hæmoptysis.
Night sweats none, sweats during day.	No sweats.
Appetite poor.	Appetite good.
Bacilli, Gaffky's scale No 1.	Bacilli Gaffky's scale No.—
Cavity left base front and back.	Improved condition of lung.

He tells me that he does not spit so much at the present time in one month as what he spat in a day before beginning the treatment; does not spit blood now. Appetite is very good, would not wish it to be better. Strength is much improved, and can work as well as ever he could; is a mechanic.

In an article dated May 14, 1887, which appeared in the *Journal of the American Medical Association*, a captious criticism is made, not upon the "Bergeon's Method of treating Phthisis," as it is headed, but dwelling mainly upon the American method of preparing the gases. Nothing is said as to the manner in which results good, bad or indifferent were obtained, but much ado is made as to the quantity of gases $C O_2$ and $H_2 S$ used. As I have given over 600 injections I believe that I am privileged to say with a certain amount of positiveness, that it is not of the slightest consequence as to the mode of preparation of the $C O_2$, enough should be given to carry sufficient $H_2 S$ into the economy to show the reaction within five to fifteen minutes from the time of administration. If the quantity is gauged in accordance with the capacity of the patient's bowels, no colic will ensue; when colic occurs it is due to mechanical distension of the bowels. The rules for the application of this system have been plainly laid down by Bergeon and Morel, and when faithfully followed, as described by them,[2] equal satisfactory results may confidently be anticipated, but not so when the apparatus, quality, etc., of gases have been garbled. In conclusion, let me say that this being but a preliminary series of observations, it might be going too far to agree with Bergeon, that this system alone is curative, but on the other hand, what the possibilities of its value are as an adjunct to the usual treatment of phthisis, may be seen from the beneficial results obtained, as shown in the above cases.

— The "celebrated" Dr. Schweninger has contracted to reduce the corpulence of the Czar. Terms, £1200 if successful, £500 and travelling expenses if not successful.

[2] Nouveau traitément des affections des Voies Respiratoires et des Intoxications du Sang par les Injections gazeuses d'apres la Méthode du Dr. L. Bergeon. Paris, 1886.

REPORT ON THE PROGRESS OF LARYNGOLOGY AND RHINOLOGY.

BY FRANKLIN H. HOOPER, M.D., BOSTON.

THE ILLNESS OF THE CROWN PRINCE OF GERMANY. THE PRESENT POSITION OF COMPLETE AND PARTIAL LARYNGECTOMY. RESULTS OF 327 CASES OF TRACHEOTOMY FOR CROUP. BLOODLETTING IN CROUP. MILK AND THROAT DISEASE IN CANTERBURY, ENGLAND. OCULAR TROUBLES OF NASAL ORIGIN. TIP-TILTED NOSES.

THE ILLNESS OF THE CROWN PRINCE OF GERMANY.

ACCORDING to a recent number of the *Medical News*:

"The Crown Prince began to suffer from catarrh and hoarseness last January, and was treated at that time by his physician-in-ordinary, Dr. Wegner, Director-General of Hospitals. A morbid growth on the left vocal cord was discovered by Prof. Gerhardt in the beginning of March, and he applied the electro-cautery, with but slight improvement resulting. On the occasion of the Emperor's birthday at the end of March, the Crown Prince was obliged to use his voice much. In the middle of April he was ordered to Ems, where he took the waters for a month, and then returned to Berlin no better. The growth was at this time found to have increased in size. Prof. von Bergman was called in consultation, and subsequently Prof. Tobold, of Berlin, and Dr. von Lauer, the Emperor's physician-in-ordinary and Chief of the Army Medical Department. They all agreed that the growth was cancer, but before doing an external operation they advised that Dr. Morell Mackenzie, of London, be summoned. Accordingly the Crown Prince telegraphed Queen Victoria requesting that Dr. Mackenzie be immediately dispatched to Berlin, and he arrived there on the afternoon of May 19th. He found that all necessary arrangements had been made to do an external operation.

"At 7.30 o'clock of the next morning Dr. Mackenzie, upon examination, found a small sessile growth of the size of a split bean, and he recommended that a portion of the tumor be removed by intralaryngeal operation for microscopic examination. Prof. Gerhardt and Prof. Tobold thought that this was impossible, but agreed that Dr. Mackenzie should attempt the operation the next morning. With the aid of forceps Dr. Mackenzie succeeded in removing a portion of the growth, which, after microscopic examination, Prof. Virchow reported consisted of inflammatory products. Dr. Mackenzie then left Berlin, but returned on June 7th, and performed a second intralaryngeal operation."

The following is the text of Prof. Virchow's report on the portions of the growth removed, as published in the *British Medical Journal* of June 18th.

"The two objects brought to me yesterday by General-Aerzt Dr. Wegner, displayed, when examined microscopically, the appearances of a coarse granular papillary outgrowths. Their rounded surfaces had a conglomerate, bluish-white, transparent, shining appearance, so far as they were in their natural state, but certain portions which had been exposed to the influence of catechu, exhibited a dull, brownish, somewhat crumbling appearance. The portions removed at the operation were somewhat retracted and hidden by the rolling inward of their edges. They consisted of a soft, fibrous tissue, from which shorter and longer shreds projected. The larger of the two pieces was 3 millimetres long and 2.5 millimetres thick; the smaller was about 2 millimetres broad and thick. But

these measurements probably do not accurately represent the natural dimensions, as the particles have diminished in size, owing to the retraction and to the folding of the sections after their extirpation.

"Microscopic investigations confirmed the diagnosis arrived at from the naked-eye examination:

"(1) The surface consisted everywhere of a very thick and dense membrane, with stratified epithelium cells. In many of the cells, gelatinous granules of large size were visible. Here and there lay a nest of cells lying in concentric layers. Toward the interior there was a similarly stratified layer of cylindrical cells (without cilia) implanted directly on the connective tissue.

"(2) The surface of the mucous membrane was covered with long papillary excrescences, which, besides the elements of the connective tissue, contained rather large vascular loops. Each nodule visible to the naked eye, on the surface, was formed by a papilla of this kind. As for the rest, the mucous membrane exhibited scarcely any modifications; larger granular and cell growths were only noticed in scanty quantities; the bloodvessels were only moderately dilated. Both portions removed included not only the mucous membrane, but extended through it into the submucous membrane. Hence, besides connective tissue with numerous fine elastic fibres, there was a large number of nerve bundles (with from four to six fibres) and their branches, and of small arteries and veins; at some points there were masses of the lobules of the mucous glands. Although it is proved by this that the incision reached parts situated deep below the mucous membrane, not a single spot that had undergone any appreciable change was discovered, despite the most careful examinations of these more deeply situated parts, especially on the extirpated side. All the essential changes affected the surface only. They prove that the tumor is an epithelial growth associated with papillary excrescences (wrongly described as papilloma) an affection termed 'pachyderma verrucosa.' At no point was the mucous membrane found to be invaded by the epithelial formations. The specimens now before me are of considerably greater scientific value than that laid before me on May 21st; in the particle then examined only scanty lesions of an irritative kind were seen; lesions only distantly to be compared with those found in the particles now examined; in all, probably, the irritative changes affected the periphery of the seat of the disease. It is evident that on the present occasion a more central spot was reached. Although this spot has become affected in a very marked manner, the healthy quality of the tissue on the extirpated portions, gives grounds for a very favorable prognosis. Whether such a prognosis be justifiable for the malady considered as a whole, cannot be concluded with certainty from the two pieces that were removed. However this may be, there is nothing in them calculated to awaken a suspicion of a further and more serious affection of those parts."

After the second operation, the Crown Prince proceeded to London to be under the care of Dr. Mackenzie. The progress of the case has been most favorable, and the growth, it is stated, has now been very nearly removed. Prof. Virchow has again made a thoroughly satisfactory report of portions sent to him to Berlin, for microscopic examination.

Laryngologists, perhaps, will best appreciate the difficulties of this important case, but all will recognize the masterly and scientific manner with which Dr. Mackenzie has conducted the treatment of his Imperial patient.

THE PRESENT POSITION OF COMPLETE AND PARTIAL LARYNGECTOMY.

During the past twenty years total extirpation of the larynx has been performed about one hundred times. In the majority of cases the operation was for carcinoma, secondly, for sarcoma, and thirdly, for stenosis due to other affections.

Dr. J. Solis Cohen, of Philadelphia, in 1883, in a paper entitled, "Does Excision of the Larynx tend to the Prolongation of Life?" expressed the opinion that excision of the larynx for carcinoma was unjustifiable, and that the greatest good to the greatest number, would be better secured by dependence on the palliative operation of tracheotomy. There is nothing in more recent statistics of this operation to induce any one to take exception to Dr. Cohen's estimate of this procedure. The immediate mortality of the operation is about forty-four per cent., and the disease recurs in forty-six per cent. of the recoveries. The mean duration of life of the living and well cases is less than seventeen months. The danger during the first few days is chiefly from septic broncho-pneumonia. According to Cohen it may be that the reduction of temperature to which the pneumogastric nerve is subjected, leads to pneumonia, and that the manipulations within the wound render it especially sensitive. When we reflect, he continues, that the majority of these operations of laryngectomy consume from one to three hours in their performance, we can fairly presume that the pneumogastric nerve is subjected to sufficient ordeal to excite an early pneumonia, quite independently of access of foreign matter to the lungs.

M. Léon Labbé, who described three cases of excision of the larynx at the last French Congress of Surgery, related that in one case, on the larynx being isolated, the patient turned pale and death-like, probably from contusion of the pneumogastric nerve. Artificial respiration was carried on for twenty-six minutes. The operation was then recommenced, and the patient recovered and lived for four months and a half.

Although the statistical results of excision of the larynx do not, as yet, warrant its performance, some important points have been learned about the technical details of the operation, and the after-treatment of the patient. By a careful selection of cases in the future, better results may be obtained. Mr. Butlin, of London, suggests that extirpation of the larynx for carcinoma, should be practised only for intrinsic carcinoma which is still limited to the interior of the larynx. He also says that if a surgeon is consulted by a patient suffering from laryngeal epithelioma, and there is nothing for it but excision of the larynx, he is bound to tell the patient (1) that it was a dangerous operation, with a mortality of from forty to forty-five per cent.; (2) that recurrence would probably soon take place; (3) that he would not even get much relief from distressing symptoms, for his difficulty in swallowing and breathing would be as great after as before the operation. It is evident that complete extirpation of the larynx for carcinoma should only be practised in very rare instances, if at all. In a patient, however, in good general health, where the disease is lim-

ited to a small portion of the interior of the organ, and with no involvement of the lymphatic glands, favorable results may be expected from partial extirpation.

Dr. Eugene Hahn, and other German surgeons advise this lesser operation for the reason that it is attended with a greatly reduced mortality, and followed by fewer recurrences and a larger number of permanent successes. The reported cases, however, are as yet few in number, and sufficient time has not yet elapsed to show that recurrence will not take place. But the results of three recent cases in England, so far as immediate recovery is concerned, are most encouraging. At a meeting of the Clinical Society of London, last November, Dr. F. Semon and Mr. Butlin reported two cases in which the operation of partial excision was undertaken for malignant disease, and both ended in rapid recovery. Five months had elapsed in one case since the operation, and three months in the other. The condition of both patients was then satisfactory.

Mr. Lennox Browne, in the *British Medical Journal*, February 5, 1887, reports an interesting and successful case. He states that he publishes the case at a period long prior to the time at which the real issue, that of immunity from recurrence, can be settled, because he believes that the difficulties of the operation, and also its immediate dangers, have been largely exaggerated.

He emphasizes the following points:

(1) Use of the raspatory for removing the tissues external to the cartilage, as the surest safeguard against hæmorrhage, as lessening the chance of septicæmia, and ensuring speedy recovery of the power of swallowing, etc. (2) The use of Hahn's tampon canula. (3) The use of perchloride of mercury in solution, and of corrosive sublimate gauze in preference to iodoform, as dressings for the wound. (4) The not too quick closing of the external wound, with the view of prolonging functional rest of the larynx without the irritation of a tracheotomy tube.

Mr. Browne concludes by saying: It is earnestly to be hoped that care will be taken in the selection of subjects for this operation, as otherwise discouragement will be given to its performance where other circumstances would be favorable. It is indicated in unilateral and intra-laryngeal epithelioma, and in recent non-infiltrating sarcoma. It is useless in pharyngo-laryngeal epithelioma, in which the larynx is invaded from the pharynx, and whenever there is implication of the cervical glands and structures adjoining the larynx. It is always possible, if on division of the thyroid cartilage the disease is seen to have extended beyond the limits suspected by prior examination, for the surgeon to desist from removal and to be content with having performed tracheotomy.

RESULTS IN 327 CASES OF TRACHEOTOMY FOR CROUP.

Dr. Robert W. Lovett and Dr. John C. Munro, formerly House-Surgeons at the Boston City Hospital, give, in a valuable article in *The American Journal of the Medical Sciences*, July, 1887, the results of the operation of tracheotomy performed for croup at that hospital, from the time of its foundation, in 1864, to January, 1887. Three hundred and twenty-seven cases are analyzed. Up to the year 1880, only 30 tracheotomies had been done, so that the greater part of the operations have been performed in the last six years. Our attention is called to the fact that a bad class of cases naturally come to a city hospital for operation, and in most instances, long after it has become advisable. The children are brought hurriedly for operation, often in a hopelessly bad condition. Of the 327 cases, 232 died, and 95 (29.05 per cent.) recovered.

Our space will only permit us to give the general results of this carefully-prepared report. The results of operation are above the average, in spite of the predominance of bad cases. They show that young children are especially liable to have extension of the diphtheritic process to the bronchi and lungs; in fact, that the chances are three to one that if they die, they will die of suffocation; that, in Boston, tracheotomy at the City Hospital is most fatal at those times when diphtheria is most fatal in the whole city, and incidentally, that the mortality per cent. from croup and diphtheria vary by the month in unison. That cases with membrane in the pharynx at the time of the operation are more likely to die than those where it is not present. That the mortality per cent. after tracheotomy rises steadily as the operation is done on the first, second, third, or fourth day of the difficult breathing. That nasal discharge, albuminuria, and enlargement of the cervical glands are symptoms of less moment than the character of the discharge from the trachea-tube, which is the most important index of the progress of a case, and that the recovery-rate varies nearly fifty per cent. between cases where the discharge is loose throughout, and those where it is gummy at any time.

The following table of all available reported cases of tracheotomy arranged by countries, is given for purposes of comparison:

	Total.	Recovered.	Died.	Per cent. Recovered
German authors,	5,795	1,851	3,944	31
German hospitals,	3,063	939	2,124	30
British authors,	433	138	295	31
French authors,	9,242	2,242	6,834	24
Various countries,	1,903	657	1,336	32
American authors,	1,327	308	1,019	23
	21,853	6,135	15,552	28

BLOOD-LETTING IN CROUP.

In a very interesting and suggestive paper "On the Remedial Value of Blood-letting,"[1] by J. A. MacDougall, M.D., F.R.C.S., Ed., we find the following few lines regarding its efficacy in croup:

"Before proceeding to allude to those conditions in which the benefit attending blood-letting is conspicuous and undoubted, I would make mention of the advantage which attends its employment in certain cases of simple croup. I am not likely now ever to forget, for the early writings on the folds of memory are the most indelible, the relief which I, when a little lad, suffering from croup, obtained by venesection. Emetics, hot fomentations, and the warm bath had all been employed, but with no benefit. The dreadful feeling of suffocation was still unrelieved, while following immediately the withdrawal of several ounces of blood from the arm, I was easy and comfortable. It would be a marvel, then, that if thus taught, it seemed the

[1] The American Journal of the Medical Sciences, July, 1887.

lesson of a *life* in its fullest sense, I should have denied the same relief to others, and thus it is that, in late childhood and early youth, when other means have failed, and when, in vigorous adolescents, cynanche laryngea is marked by the symptoms noted by Cullen: 'respiratio difficilis, inspiratio strephens, vox rauca, tussis clangosa,' then my trust and my expectation lie in a moderate phlebotomy."

MILK AND THROAT DISEASE IN CANTERBURY, ENGLAND.[2]

The medical officer of health of Canterbury has reported a sudden outbreak of throat disease, which, in eight days, attacked no less than 231 persons, without fatal effects in any instance. So far as can be judged, the epidemic was due to milk, for of 160 houses served from the dairy which is in suspicion, no less than 94 were affected, and, so far as can be gathered, out of 36 houses partly supplied from the same diary, and partly by other milkmen, 21 were affected. In the other instances of houses affected, the persons in question seem almost exclusively to have been those who were either attacked late during the outbreak, and under circumstances which admitted of their having derived the infection from antecedent cases, or else persons who may easily have partaken of the suspected milk elsewhere than in their own homes. So far, says the *Lancet*, the reports on the case are, we trust, incomplete, for by far the most interesting feature of the case is the implied sickness of animals in connection with the outbreak, and the history as to this is as yet very imperfect. Indeed, we only learn of a lamb in the suspected dairy premises having suffered from "sore throat," and of cows having had "diarrhœa." The connection now established between disease in the human subject and affections of a specific character in lower animals, and especially in cows, is of far too great importance to admit of such a case being passed over by such vague accounts in so far as these animals are concerned. It is to be hoped that skilled veterinary and pathological aid was secured, either through the Local Government Board or otherwise, and that a more complete report will be issued.

OCULAR TROUBLES OF NASAL ORIGIN.

Dr. Gruening, of New York, Dr. Boerne Bettman, of Chicago, and Dr. Gordon, of Springfield, Ill., have called attention to the importance of recognizing abnormal changes in the nose as the starting point of certain pathological conditions of the eyes and lids.

The connection between the nose and the eye is intimate, and the relations of the two are reciprocal. Thus, irritation of the nasal mucous membrane frequently produces lachrymation and other eye symptoms, and in the case of certain irritable eyes, exposure of the organ to a strong light brings on attacks of sneezing. Disease from one organ to the other may spread by direct continuity of tissue, and also through the medium of the circulatory and nervous systems.

The lachrymal passage is the connecting link between nose and eye. The mucous lining of the lids and eyeballs is but a continuation of that covering the inner surface of the nose and tear-ducts. This fact alone, Dr. Bettman thinks, ought to suggest the rationality of seeking in the nose the cause of epiphora, redness of the lids, and other abnormal conditions, provided the disturbances could not be traced to local causes. He then points out that it is only since the publication of Hack's monograph on the operative radical cure of migraine, asthma, hay fever, etc., that the nose has been regarded as the source of certain ocular complaints which have baffled the efforts of oculists. The nasal trouble will generally be found to consist of a swelling of the anterior end of the inferior turbinated body. The mucous membrane may show a perfectly normal appearance, indicating that the cause of the swelling is due to changes underneath it, in the cavernous spaces, which become filled with blood, bulging the mucous membrane outwards, until it at times reaches the septum. This swelling, and also swellings of other portions of the nasal cavities, can give rise to reflex neuroses in various organs, which can, furthermore, be allayed by destroying the seat of irritation by operative measures. Thus Hack accounts for certain forms of migraine, asthma, hay fever, supra-orbital neuralgia, vaso-motor reflexes of the skin of the face, epiphora, redness of the lids, turgescence of the conjunctival bloodvessels, and photophobia.

Dr. Bettman cites cases that did not yield to the ordinary treatment directed to the eyes, but improved immediately after eradicating the abnormal conditions in the nose.

Dr. Gruening states that in simple cases, the instillation of cocaine into the nostrils often affords a satisfactory test as to whether the ocular trouble is dependent on nasal irritation or not, for if it affords relief to the eye symptoms, we may conclude that the latter are to be attributed to the condition present in the nose. He relates several cases of his own, as examples in which the eyes were affected for many years, in consequence of comparatively mild affections of the nasal mucous membrane, and in spite of the most persevering and skilful treatment directed to the ocular condition, but in which the eye trouble promptly disappeared as soon as the nasal affection was removed by appropriate treatment.

All the cases, however, were not of this simple class, and he speaks of several in which the reflex eye symptoms were due to more serious pathological conditions of the nasal cavities. In them, also, the eye trouble disappeared as soon as the source of irritation in the nose was removed. In one instance, where the patient had suffered for many years, the eyes were permanently cured on the very day that a large mass of hypertrophied tissue was removed from the nose. During the past two years, he says, he has met with some two hundred cases in which he could refer the ocular symptoms to nasal trouble; but the treatment, which varied according to the circumstances of the case, was not always successful. In most of the unsuccessful cases, however, the patients had disappeared before the treatment was completed, or, perhaps, was fairly commenced. Still, in about one hundred and fifty of the two hundred cases, complete relief had been afforded by the removal of abnormal conditions of the nasal passages.

Among the symptoms mentioned as most frequent in these cases of reflex eye trouble, are: Burning and smarting sensations in the eyes, more pronounced in the morning; inability to fix an object in ordinary daylight; irritation and gluing together of the lids; extreme sensitiveness to cold and wind; lachrymation. Other characteristics were: inefficiency of ocular treatment, and efficiency of nasal treatment, even in spite of the absence of nasal symptoms.

[2] Medical News, October 9, 1886.

Dr. Gordon describes a form of conjunctivitis dependent upon disease of the intra-nasal tissues. This conjunctival disease, he says, is chronic inflammation of the conjunctiva and the connecting tissues, accompanied by increased thickness of the membrane, especially of the palpebral portion, which is very slightly roughened, giving it somewhat the appearance of trachoma in a mild form. The tarsal cartilages, tarsal glands, and ciliary follicles are more or less involved, with marked lachrymation and photophobia; pain is sometimes intermittent, more severe in the afternoon. The disease in the nose is usually a chronic rhinitis, of the hypertrophic character; mucous membrane exquisitely sensitive, with an abundant flow of thin, watery mucus.

A marked and important character of the conjunctivitis is its chronicity; it is not limited by weeks or months, but years. It yields slowly and only temporarily to the orthodox method of treatment of chronic conjunctivitis.

Dr. Gordon believes that the successful management of this form of conjunctivitis depends upon the proper treatment directed to the nasal passages.

TIP-TILTED NOSES.[2]

The influence of the shape of a man's nose in determining the good or evil fortune of his life has not escaped the attention of physiognomists. That eminent social philosopher, Mr. Shandy, whose lucubrations have attained so wide a currency, thanks to the filial admiration of his son, Tristram, truly observed that "no family, however high, could stand against a succession of short noses"; by "short noses," probably to be understood that form in which the organ is not only curtailed in length, but so distorted in form that it is "tip-tilted, like the petal of a rose." This poetical simile but imperfectly expresses the true state of the matter. For a short time, while the *beauté du diable* lasts, the tip-tilted nose may be forgiven in a woman, but for the greater part of existence it is a continual social agony to its unfortunate possessor. Such sufferers will rejoice to hear that their sad case is not beyond the reach of plastic surgery. Dr. John O. Roe, of Rochester, N. Y., has devised an operation for "the correction of the deformity," which is easily performed. He most philosophically remarks that "the nose does not appear ugly by reason of the fact that its size is disproportionate to that of the face (for noses vary greatly in this respect), but by reason of the disproportionate relations to one another of the different parts of the nose itself." Accordingly, having deadened the sensibility of the interior of the nose with cocaine, he pulls up the end of the nose, reflects the mucous membrane, cuts away the superfluous tissue which causes the organ to be tip-tilted, and then, if necessary, moulds a splint — a saddle, as it were — to the top of the nose, so as to make it, while healing, assume the desired aquiline shape. In other cases, where the large end is due to the cartilages of the nose being bulged outwards too much, he cuts them through with a thin-bladed knife, and then applies his splint or saddle. In neither case is the operation at all serious. There is no scar, for the skin is not cut through, and the results, if we may judge by the drawings made from photography taken before and after, leave nothing to be desired.

[2] British Medical Journal, June 13, 1887.

New Instruments.

DESCRIPTION OF A SIMPLIFIED CLOCK-WORK APPARATUS FOR GRAPHIC EXPERIMENTS.

BY F. W. ELLIS, M.D., SPRINGFIELD, MASS.

THREE kinds of apparatus are required in graphic experiments: first, a contrivance for imparting a uniform motion to the recording surface; secondly, an arrangement for writing upon the moving surface; and thirdly, a driver for transmitting the movement to be recorded to the second form of apparatus. These three forms of apparatus are all required in ordinary physiological and clinical experiments in which the graphic method is employed, and together form the complete recording apparatus.

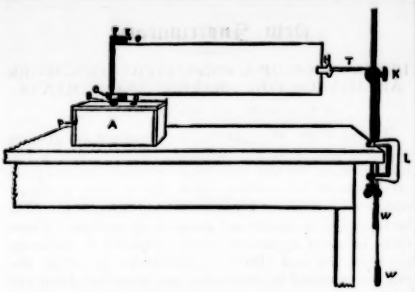
We have no good name for the first class of instruments — perhaps graphic-motor would be as good as any. The word kymograph, or kymographion, is sometimes employed to designate this species of apparatus, but, as the word is also used to denote instruments belonging to the second class, as the original kymograph of Ludwig, Fick's spring kymograph, etc., it only tends to confusion to employ it in this connection.

In the ordinary forms of graphic motors some kind of clock-work is usually employed. In large laboratories, gas-engines, electric, hot-air, and water motors have been used to impart the required motion to the apparatus, but, ordinarily, clock-work driven by a weight or spring is resorted to for this purpose. Experience has taught the writer that even large laboratories are apt to be inadequately supplied with instruments of this kind. The cost of the instruments constructed after the models of Ludwig and Marey is so great that well-equipped laboratories cannot afford more than one or two of them. Several experimenters, working together, are liable to be embarrassed for want of a sufficient number of recording instruments. To many clinical investigators these instruments are inaccessible. There are also enthusiasts, carrying on experimental researches in private, who are indisposed to make the large outlay required to procure the complicated Ludwig or Marey apparatus. There are, moreover, certain requirements for particular purposes which the instruments mentioned do not possess; these are portability, compactness, and easy adaptability to special conditions.

Reichert[1] described two ingenious arrangements of simple construction to take the place of the complicated graphic motors. The apparatus was, however, bulky and could not be conveniently transported. The apparatus to be described is exceedingly simple, is easy to construct, costs very little, and is quite efficient. It is amply sufficient for most graphic purposes, and is particularly well adapted for clinical work. It can be easily modified for special purposes, and very long tracing can be taken with it when required.

The figure gives an outline sketch of the apparatus. The clock-work is enclosed in a small covered box A. The axle for the minute-hand projects through a small hole in the cover, and is represented at B. A wooden spool C, about 12 centimetres long, and having a hole in the centre of its lower end, is fitted to the axle, and is retained in a perpendicular position by means of the

[1] Two new Kymographions and a Time-Recorder, Philadelphia Medical Times, Vol. XII, p. 267.



wooden upright D having a projection E at right angles to it. A pin F in the centre of the upper end of the spool is held in a notch in the piece E by a pin G. A clamp L, to which is fastened a brass rod, can be fastened to one end of a table. A short piece of brass K has a hole in its centre through which the rod passes and upon which it can be clamped at any height by means of a binding-screw. Two small pulleys are affixed to the ends of this piece. Two strings pass over these pulleys. One end of each string is fastened to a garter-clamp H, and the other to a small weight W. The clamps are fastened to each end of the paper for the tracing. One end of the paper is passed around the wooden roller, and the strings are placed upon the pulleys. The paper is then retained in its position by the traction of the weights. The clock-work is an ordinary eight-day movement. The pendulum and escapement are removed. A piece of sheet brass is fastened to the axle of the scape-wheel to serve as a regulator. A steel spring, one end of which, P, projects through the front of the box, is fastened inside the case in such a way that it serves as a lever which can be pressed against one of the wheels and so stop the apparatus. By employing spools of different diameters the rate of movement of the paper can be varied as desired. When a very slow rate is required, as is necessary in some protracted experiments, extending over hours, or even days, a marine clock-work can be substituted for the ordinary pendulum movement.

It is evident that tracings of great length can be taken with this apparatus. By turning the box upon its back, horizontal tracing can be obtained.

A very efficient method for smoking the strips of paper is the following: A circular piece of wood, an inch or more in thickness, is sawn from a board. A short brass or iron rod is driven through the centre of the wooden disc. The paper is made to envelop the disc and is fastened with a tack. By revolving the wheel over the naked flame of an oil lamp the paper can be very evenly covered with a coating of carbon.

Ordinarily very light weights are sufficient to keep the paper smooth. When larger weights are used, it will be necessary to fasten the box to the table by means of a clamp or some other simple device.

— Professor Braune, of Leipzig, after a thorough investigation of the mechanism of the hand, is said to have constructed a new sword-handle on anatomical principles, which exactly fits the hand, and can be held with absolute security.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

MARCH 16, 1887. DR. JAMES R. CHADWICK, in the chair.

DR. JOHN HOMANS, 2d, read a paper entitled

SUPPLEMENTARY OVARIES.[1]

DR. CHADWICK. While I do not regard the question settled as to the dependence of menstruation upon functional activity of the ovaries, the preponderance of evidence seems to me to be adverse to that theory. In his paper "Sur la menstruation après l'ovariotomie et l'hystérectomie," Paris, 1880, Ormières published brief extracts of forty-five cases of double ovariotomy in which the patients subsequently menstruated with reasonable regularity, and forty-eight cases in which, after the same operation, they failed to menstruate persistently. Dr. Reeves Jackson,[2] in his article on the "Ovulation theory of Menstruation" reproduces a table by Dr. John Goodman, of double ovariotomies, containing twenty-seven cases in which fourteen patients menstruated subsequently with more or less regularity. From these two tables it is apparent that menstruation persists after the removal of both ovaries in about half the cases. Until these figures shall have been controverted, we cannot accept the theory that menstruation is dependent upon the presence of the ovaries or adduce the occasional existence (in four per cent. of the cases), of supplementary ovaries in explanation of the persistence of menstruation when two ovaries have been removed. Furthermore, if, as stated in the paper to which we have listened, the supplementary ovary is generally nourished from one of the ordinary ovaries, how can it be supposed to be nourished and continue to functionate after the removal of the other two ovaries.

DR. FITZ said, I do not remember to have ever found what was unquestionably a supplementary ovary, and I had the impression that the number of well authenticated cases was very small, perhaps three, and less than a half a dozen. As the existence of supplementary ovaries has been conspicuously brought to the attention only within a few years, many cases may have been overlooked. It is, therefore, not unlikely that this condition will be found in the future to a greater extent than in the past.

DR. J. W. FARLOW read a paper entitled

THE VALUE OF THE BLUE DISCOLORATION OF THE VAGINA AS A DIAGNOSTIC SIGN OF PREGNANCY.[3]

DR. HOMANS asked Dr. Farlow why he used the word "blue" if the color is of a wine-red or claret color.

DR. FARLOW replied that the usual way of referring to the color is to call it blue. It is blue at first, and later assumes a marked violet or port-wine color.

DR. VICKERY asked if the color was found in extra-uterine pregnancy.

DR. FARLOW said he had seen but few such cases, and in those the color was not noted. In conclusion, he spoke of a blue color which is not infrequent about the posterior commissure of the vagina, but which seems

[1] See page 50 of the Journal.
[2] American Journal of Obstetrics, Vol. 9, p. 550, 1876.
[3] See page 49 of the Journal.

to be connected with the vessels of the rectum and not with those of the uterus.

DR. CHADWICK. As I have been taking notes on the "Value of the Bluish Coloration of the Vaginal Entrance as a Sign of Pregnancy," for ten years, and read a paper on the subject at the last meeting of the American Gynæcological Society, I venture to give my conclusions. The number of cases in which my data were complete included 281 pregnant and 56 non-pregnant women.

Of the 281 pregnant women, the color was practically absent —

At the end of	2	months in	51	per cent.	of the cases.
"	2½	"	31	"	"
"	3	"	17	"	"
"	3½	"	8	"	"
"	4	"	8	"	"
"	4½	"	9	"	"
"	5	"	4	"	"

The color was *suggestive* of pregnancy —

At the end of	2	months in	34	per cent.	of the cases.
"	2½	"	41	"	"
"	3	"	27	"	"
"	3½	"	45	"	"
"	4	"	30	"	"
"	4½	"	4	"	"
"	5	"	20	"	"
"	5½	"	30	"	"

The color was *diagnostic* —

At the end of	2	months in	13	per cent.	of the cases.
"	2½	"	28	"	"
"	3	"	46	"	"
"	3½	"	36	"	"
"	4	"	63	"	"
"	4½	"	86	"	"
"	5	"	72	"	"
"	5½	"	70	"	"

After (and including) the end of the sixth month, the color was *diagnostic* in all but one case, in which it was *suggestive*, and one in which it was *doubtful*.

The analyses on the positive side are supplemented, and the general conclusions strengthened, by the evidence of the following table, compiled from the records of patients who, for more or less good reasons supposed themselves to be pregnant.

TABLE OF 56 WOMEN WHO PROVED NOT TO BE PREGNANT.

Period after menstruation.	Valueless.		Suggestive color	Diagnostic.		Total
	No color	Doubtful color		Characteristic color	General deep color	
1 week	1	..	1	..	..	2
2 weeks	2	..	..	..	..	2
3 "	2	..	..	..	..	2
4 "	5	3	..	..	1	9
5 "	3	2	1	..	..	6
6 "	12	1	..	..	..	13
7 "	1	..	..	..	..	1
2 months	6	..	..	..	..	6
2½ "	2	1	..	..	..	3
3 "	4	..	..	..	..	4
4 "	1	2	..	..	..	3
5 "	3	..	1	..	..	4
6 "	1	..	..	..	..	1
Total	43	9	3	..	1	56

My conclusions with regard to the blue color were:

"(1) That its absence is not to be accepted as evidence that pregnancy does not exist, especially in the first three months, where satisfactory evidence is most needed."

(2) *That from (and including) the second month, this color is generally present, and often of such character as to be diagnostic.*

I have found the color of great assistance in making a diagnosis in the early months of uncomplicated pregnancy, and in the later months in cases of *retroversion of the pregnant uterus; extra-uterine pregnancy; in pregnancy complicated with fibroid tumors of the uterus or with ovarian tumors; in pregnancy occurring in women with very fat or tense abdominal walls; when the existence of pregnancy was unknown or concealed; when menstruation persisted after conception;* and *when conception has occurred during lactation without the intervention of menstruation.*

MASSACHUSETTS MEDICO-LEGAL SOCIETY.

W. H. TAYLOR, M.D., RECORDING SECRETARY.

JUNE 7, 1887, the tenth annual meeting was called to order in the rooms of the Boston Medical Library Association, at 11.20 A.M., by PRESIDENT WINSOR. Twenty members were present. Records of the last meeting were read and approved.

MEDICAL EXAMINER HOLT of the committee to prepare a blank form to be used in reporting autopsies made his report, recommending a printed form which he presented, and also advising the purchase by each medical examiner of Virchow's Post-mortem Examinations.

The report was accepted, and MEDICAL EXAMINER HOLMES moved adoption of the printed form. Considerable discussion ensued, and it was finally voted to reconsider the vote accepting the report of the committee, and to refer the blank form to it again with request to report at the next meeting of the society.

Voted, on motion of MEDICAL EXAMINER WRIGHT that a copy of the blank form be sent to each member with the request that he examine it and suggest to the committee any changes that seem desirable.

The following officers were elected for the ensuing year: President, F. Winsor, M.D.; Vice-president, J. G. Pinkham, M.D.; Treasurer, C. C. Tower, M.D.; Corresponding Secretary, B. H. Hartwell, M.D.; Recording Secretary, W. H. Taylor, M.D.; Standing Committee, F. W. Draper, M.D., S. D. Presbrey, M.D., A. F. Holt, M.D.

PRESIDENT WINSOR announced the death of G. P. Pratt, M.D., of Cohasset, a member of this society.

MEDICAL EXAMINER TOWER briefly referred to the life and character of Dr. Pratt.

On recommendation of the Executive Board the following gentlemen were elected to active membership: Medical Examiners, Drs. J. W. Spooner, of Hingham, J. Alban Kite, of Nantucket, T. M. Durell, of Somerville, Wm. Holbrook, of Palmer, W. F. Stevens, of Stoneham, G. M. Morse, of Clinton, J. G. Hayes, of Ipswich.

Charles Harrington, M.D., of Boston; and Hosea Kingman, Esq., District Attorney for the southeastern district were elected associate members.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, May 16, 1887.

DR. IRA B. READ read a paper on

TUBERCULOSIS OF THE JOINTS.

Although this was a strumous disease, and attended with the strumous diathesis, he said, it did not necessarily follow that the sufferer must have always been

a victim of such a diathesis, any more than it followed that he who died of pulmonary phthisis must have inherited it. Nor, on the other hand, did it necessarily follow that some injury must have been sustained. Dr. Read held, therefore, that each of these causes might claim its victims, but that to neither belonged the sole claim. Either, he believed, might act without the other, or both might act in conjunction. As regards prognosis, he thought that if the trouble was recognized early, the patient could be given reasonable assurance of a cure; but if this occurred at the second or third stage of the disease recovery would take place if at all, only after a long and tedious confinement.

The treatment was both constitutional and local. In the first stage we had an ordinary inflammation to treat, locally, but instead of depleting the patient, as might otherwise be done, it would be necessary to nourish and sustain him with nutritious food and tonic remedies. One thing must be peremptorily insisted on, namely, complete rest. There is already an overtaxed system, and nature must have an opportunity for recuperation. The indications were to soothe pain, quiet spasmodic action, give rest to the part, and build up the constitution. Should there be a detached fragment of necrosed bone, it should be removed. The sinuses should be kept as free as possible, and frequent injections of antiseptic solutions were required. Anchylosis must be guarded against, as in any other condition threatening it. Whatever would give rest and comfort to the affected part, bandages, splints, extension, should be employed; but it was to be constantly borne in mind that behind the swollen, or open and discharging joint, there was the patient, emaciated, weak, weary and nervous, who was to be unceasingly watched and sustained.

While the disease was peculiar to childhood, as a rule, there were exceptions, and Dr. Read then went on to describe a case which had been under his charge for several months, in which the patient was sixty-two years of age. He had always enjoyed good health up to the autumn of 1882, when the left shoulder-joint became affected. There was afterwards prolonged suppuration, with open abscesses, which subsequently healed, and in the winter of 1884 both ankles became affected, though without suppuration, and his general health was much impaired. In the winter of 1885, abscesses formed in both and there was a discharge of pus and blood. In the summer of 1885, an abscess formed on the great toe which discharged for some weeks. The right ankle healed in about six months, with the exception of two small openings, through which there is up to the present time occasionally a discharge of thin purulent fluid. The left ankle is still open and discharging pus, although not very freely. In the autumn of 1886, the knee began to swell and become painful, so that he could not walk. Up to this time he had been able to attend to his business daily, with but few interruptions.

In February last, Dr. Read was asked to take charge of the case, and he described in detail the conditions existing at that time. Up to this date the patient had been sitting up every day, but Dr. Read insisted on his going to bed and remaining there. Absolute rest was secured for the affected joints, gentle pressure was made by means of a woollen roller, and the opening in the ankle dressed with iodoform and a covering of oakum. Stimulants and the most nutritious diet was resorted to, but the patient was unable to take cod liver oil. Under this treatment there has been very marked improvement in the constitutional condition and the local symptoms.

DR. LAURENCE J. MCNAMARA read a paper on

RESPIRATORY THERAPEUTICS IN THE TREATMENT OF PHTHISIS PULMONALIS.

He would limit his remarks, he said, to one division of the subject, namely, the local treatment of phthisis by medicinal agents applied to the interior of the respiratory tract in finely divided particles. He did not propose to discuss the constitutional remedies supposed to act locally by elimination, or the treatment of pulmonic disease by the use of means to increase or diminish the air pressure, either in the air respired, or on the body surface.

The contention of different theorists, he went on to say, as to whether pulmonic phthisis was of a primary tuberculous nature, or whether the tuberculous element was of secondary importance, had kept alive the spirit of scientific research, even though the death-rate did not visibly diminish. To the followers of Laennec, however, the praise of success was due. The fierce antagonism that met his statement of the primary nature of the tuberculous element was the beginning of many experiments by late observers; and it was the sincere belief of the author that to his final insistance on the tuberculous nature of this disease the discovery of its specific nature was to be ascribed. The brilliant discovery of Koch in successfully isolating by his peculiar method of staining the bacillus tuberculosis seemed to him but the logical conclusion of such reasoning.

The importance of the bacillus and the infectious nature of the disease admitted, the necessity of using means to retard the further development of the organism, or of destroying it, and the placing of the exposed person in an atmosphere devoid of its presence, at once became apparent. The acceptance of this idea of infection by the profession in general, would be the dawning of a new day in the treatment of consumption. The possibilities of relief and cure became bright with the expectation of success, and the idea of prophylaxis assumed prominence. The changing of an infectious pulmonary discharge to one devoid of dangerous elements was the logical sequence of putting the theory into practice. He did not, however, wish it to be understood that he considered the antiseptic treatment of phthisis the only form of treatment worthy of application to the diseased lung. He believed that it was at present a necessary and most important means of modifying the course of the disease; but the physical conditions caused by the extension of the inflammatory irritant would call, of course, for other methods of treatment.

The number of mechanical appliances devised and in use, to reduce fluid of a medicinal nature to the finest spray, during the last few years, had been very great; but the majority of these were, unfortunately, of no use. That we could, however, produce a spray of sufficient fineness to pass the larynx and penetrate beyond the larger bronchi could not be denied. The use of compressed air and the employment of tubes with very minute openings had been of late years generally used by those interested in this branch of therapeutics. About four years ago Dr. McNamara said his attention was attracted to an in-

halation apparatus consisting of a funnel-shaped glass globe with two openings; one for the attachment of the metallic disc holding in its centre the spray-tubes, and the other, immediately opposite, terminating in a long mouth-piece. The fluid to be atomized was placed in the globe, and a tube of rubber connected the fluid with one of the spray-tips; while the other tip had a connection with a cylinder of compressed air. The globe rested on a bracket capable of being raised or lowered as required. The patient, standing with head elevated, placed the mouth-piece in his mouth and inspired; allowing the expired air to escape through the nostrils.

His first impression was that this apparatus was of similar nature to many others tried before and found wanting, but experience in its use had convinced him of its practical utility. The spray produced in the globe consisted of a central stream of very great attenuation, the larger particles of the atomized fluid being projected against the sloping sides of the globe, beyond the opening. These larger particles becoming condensed, fell as drops into the original solution, and did not escape through the opening. The mist that passed through the mouth-piece had no such momentum as to cause its entire condensation, and would not wet the hand when held before it. Ordinary inspiratory efforts would carry the spray into the lower respiratory passages. The compressed air he obtained from a large cylinder, allowing it to escape into a smaller one before reaching the spray-tubes, and, by this method, keeping the valves partly opened, he obtained constant, steady pressure in the smaller cylinder, and consequently, the same character of spray. The pressure used varied from fifteen to twenty pounds, and never exceeded this limit. He has been using this apparatus for nearly eighteen months.

When he began this form of treatment, it was with the idea that he could relieve, in many instances, many of the distressing symptoms in his phthisical patients; but, noticing the marked amelioration of the condition in the majority of instances, he determined, some months ago, to keep more exact records of temperature, pulse, respiration, and expectoration, noting especially the presence or absence of the bacilli, and the effect of the treatment upon them. The whole number of cases treated was between fifty and sixty, but as nearly one-half used the treatment but a few times, and at irregular periods, they were excluded from the account. The cases worthy of mention embraced almost all the forms of phthisis, except the stage of excavation, and the patients remained under treatment from one week to nearly eight.

Under this method of treatment, the cough and expectoration diminished, and in those treated the longest, the cough quite disappeared. The bacillus was found in every one of these cases, and was always present, even to the termination of the treatment, with the exception of one instance, although the number of bacilli was visibly diminished. When the treatment was discontinued, however, the symptoms had in most cases disappeared. One illustrative case Dr. McNamara described in detail. Having described the physical signs, and stated that the temperature varied between 98.8° and 101°, he said that the sputum contained bacilli. He placed the patient, who was a female, twenty-three years of age, on iron, quinine, and strychnine, and gave her daily inhalations of the following solution:

℞ Sodii bicarb:
Sodii biborat: aa ʒj.
Acid. carbolic: gtt. xx.
Glycerinæ: fʒij.
Listerine: fʒij.
Aquæ destillat: fʒxvj.
M.

When this treatment had been continued for nearly two weeks, the expectoration was found to have increased, but its purulent character had changed to one more mucoid. The small, white specks, used to determine the presence of the bacillus, became less numerous in the sputum, though still present. The severity of the cough was lessened, and the general health had begun to improve. He then placed her upon an inhalation of the dark extract of pinus canadensis, Lugol's solution (one to five drops to the drachm), carbolic acid, and distilled water. She remained under treatment regularly for almost three weeks longer, and then refused to continue the daily treatment, although consenting to come to the office two or three times a week.

When she abandoned the daily inhalations, he examined the slight discharge raised during the day (about three ounces), and, notwithstanding repeated examinations, he failed to find any evidence of the presence of the tubercle bacilli. About three months afterwards, he again examined the sputum for bacilli, and found none. The other cases were subjected to the same rigid tests, and bacilli were found in every one of them, even when the distressing symptoms had disappeared.

Dr. McNamara said, in conclusion, that there was no claim on his part to any originality in the method of treatment described. He again called attention to the fact that, although the cases were relieved of their symptoms, and the evidence in many instances pointed to a cure of the process, the scanty expectoration still contained bacilli, except in the case of the young woman referred to. In her case the vesicular murmur returned, and the râles disappeared, and, in addition, the bacillus also disappeared. On account of the difficulties attending the systematic use of such a method of treatment in private practice, he thought that it should be carried out in some special institute, where it could be combined with the pneumatic method, when the physical condition of the patient called for the employment of the latter.

Dr. E. G. Janeway said that it was difficult, in the first place, to carry out any plan of antiseptic treatment that would fully reach the affected parts, and difficult, in the second place, to appreciate the amount of disease present in many instances. By inhalation methods, we might be able to benefit a certain proportion of cases, but the conditions present were often such that the application would be carried to the sound tissues of the lung, rather than to the affected parts. It was well known how much difficulty there was in favorably affecting a case of tuberculosis when the parts involved could be readily reached, as, for instance, in tuberculous ulcers of the mouth, gums, tongue, or leg, and the difficulty must necessarily be much greater when the diseased part was as inaccessible as the lung. He thought inhalations might act favorably, however, in arresting the process by affecting the neighboring sound tissue. Again, it was a fact that in cases of chronic phthisis, attacks of capillary bronchitis and broncho-pneumonia sometimes occur, making them appear like acute tuberculosis, and, under these circumstances, the violent symptoms

usually subsided in a short time. There were, therefore, many cases in which one might be led to suppose that the tuberculous process was much more advanced in the lungs than was usually the case, and he believed that some of the cases reported as being so much benefited by the Bergeon treatment were of this character.

DR. H. M. BIGGS said that such applications as those referred to in the paper no doubt had a soothing effect upon the mucous membrane. They had no effect upon the bacilli, however, even when applied directly to them, and if we did use solutions which were strong enough to destroy them, we would produce an amount of irritation which could not be borne by the patient. Inhalations in the form of spray were unquestionably useful in aiding expectoration and the resolving of the products of inflammation, as well as for their disinfectant action in the upper air-passages; but, as a rule, he thought our main reliance in the treatment of phthisis at the present time must be placed on constitutional measures, including the selection of a suitable climate, wherever this was practicable.

In closing the discussion, DR. MCNAMARA said that he had not claimed that the inhalations would kill these germs. As a matter of experience, however, he had found that many of his patients improved so greatly under their use that all symptoms disappeared, although, as he had stated in the paper, the bacilli, with the exception of but a single case, persisted after the symptoms were gone.

PENNSYLVANIA STATE MEDICAL SOCIETY.

A VERY interesting meeting, the thirty-eighth annual session, of the Medical Society of the State of Pennsylvania has just been held at Bedford Springs, a health resort whose reputation was great in former days, and whose healing waters still preserve their virtue. Dr. S. H. Gump, of Bedford, was the Chairman of the Committee of Arrangements, and delivered an eloquent address of welcome on the morning of the first day, June 29th. The Committee on the organization of a State Board of Medical Examiners, reported that the bill which had been so carefully framed by the Committee to establish such a board, had failed to pass the Legislature. A resolution was submitted, requesting each County Society to consider the subject of a State Examining Board and to appoint a special committee to co-operate with the committee of the State Society. The resolution was adopted.

"The Address in Surgery" was read by Dr. J. S. Murdoch, of Pittsburgh, who considered the recent advances in surgery, especially connected with the adoption of the antiseptic method of dressing wounds. He devoted considerable time to discussing the advantages of the Chopart amputation, and exhibited casts showing admirable results. The "Address in Ophthalmology" was delivered by Dr. Charles S. Turnbull, of Philadelphia. "A Report on Hydrophobia in 1886" was read by Dr. Charles W. Dulles, in which the uncertainty of the pathology was insisted upon, as well as the unsatisfactory character of the testimony which had been urged in favor of the so-called Pasteur treatment.

Dr. John V. Shoemaker described a method of treatment of diseases of the skin by medicated plasters, a number of useful combinations were exhibited. A banquet given by the Bedford County Medical Society very pleasantly terminated the first day's proceedings.

On the second day, the first scientific paper read was the "Address in Medicine," by Dr. Frank Woodbury, of Philadelphia. He claimed that more exact conceptions of disease, based upon observation, both *intra-vitam*, and *post-mortem*, distinguish the medicine of to-day, and necessarily are working a revolution in therapeutics. Sutton's investigations into the genesis of the bacillus tuberculosis, apparently prove that it has been evolved from some harmless form by passing repeatedly through the intestinal canal of grain-eating fowls, thus acquiring the habit of growth at an elevated temperature. The probability of the bacilli, of cholera, dysentery, or typhoid fever, having their origin in this, or a similar manner, was referred to. Since some bacilli excrete poisonous chemical compounds (ptomaines), it was believed that immunity from future attacks is purchased by a sort of acclimatization, the system becoming accustomed to them just as it sometimes does in the case of morphine, alcohol, or tobacco. It was suggested that immunity from contagious disease might be attained by chemical agents, that is, quinine or arsenic prevents malarial infection; sulphuric acid or alcohol protects from cholera, etc. This is preferable to inoculation because more under control. Vital resistance can also be increased by gymnastics, and by massage. The employment of the blind in the practice of massage, as in Japan, was urged for adoption in this country, in order to popularize this useful method. Since artificial alimentation of infants is a great source of enfeebled vitality, the use of electricity as a stimulant to the mammary gland after parturition, was recommended. Even the breasts of virgins might be made to functionate and be utilized in this way, as suggested by Pierron. Thus an unlimited supply of wet-nurses could be obtained, with a reduction in the demand for baby-foods, and a corresponding falling off in infant mortality.

Dr. Traill Greene, of Easton, read a brief communication on "Palatable Therapeutics," in which he contrasted modern medical practice with that of the days of crude drugs. He claimed that it is unnecessary to administer a medicine in a form that will be unacceptable to the most fastidious palate, and denounced the practice of giving nauseating or unpleasant remedies.

Dr. George Stubbs, of Philadelphia, read a communication favoring the use of "Iodoform in Surgery," and Dr. Wm. F. Waugh condemned "the New Methods of the Treatment of Phthisis," by rectal enemata of gas, and defended the old methods. In the afternoon, Dr. S. Wolfe, of Skippack, Pa., read the "Address in Obstetrics," principally discussing the use of antiseptics during and after labor. Dr. John H. Packard read the "Report of a Case of Right Inguinal Colotomy," for strictures of the rectum and descending colon, with very satisfactory results. Dr. Wm. C. Bane reported two cases of Nystagmus, one with myopic astigmatism, the other hypermetrophic astigmatism. Both were relieved at once by appropriate glasses. Dr. S. S. Cohen considered modern methods in the Treatment of Pulmonary Consumption." The Salient Points in the treatment of Pulmonary Consumption" was read by Dr. J. T. Mays, of Philadelphia, and Dr. Edward Jackson followed with a paper on "When and How to Use Mydriatics in the Eye."

A number of interesting topics were suggested in the papers that were read only by title.

Dr. R. Davis, of Wilkes-Barre, President of the Society, read a very interesting annual address defending the profession from the charge of therapeutic nihilism, and reciting some triumphs of modern medicine.

The third day was opened with the "Address in Hygiene," by Dr. J. D. Thomas, of Pittsburgh, which elicited considerable discussion on sewerage, and the best means of utilizing or destroying human excrement and sewage.

At the business session the sum of $1,000 was appropriated for a contribution to the International Medical Congress, and about $200 was added by individual subscriptions. Five hundred dollars was appropriated towards the erection of a monument to Dr. Rush at Washington, D. C. R. J. Levis, M.D., of Philadelphia, was elected President for the ensuing year, O. N. Allis, M.D., Treasurer; Wm. B. Atkinson, M.D., Secretary; John H. Packard, M.D., Chairman of Committee of Arrangements. Dr. E. R. Sayer was appointed to deliver the Address in Medicine; J. S. McCann, M.D., the Address in Surgery; Theophilus Parvin, M.D., Obstetrics; H. C. Wood, M.D., Nervous Diseases; J. Randall, M.D., Ophthalmology. The next place of meeting will be Philadelphia, time the second Tuesday in June, 1888, the Society to continue in session for four days.

Recent Literature.

Transactions of the Eighth Annual Meeting of the American Laryngological Association. New York: D. APPLETON & Co. 1887.

This volume contains the papers read at the annual meeting of this active and flourishing association, held in Philadelphia, in May, 1886. There are twenty-five papers in all, of scientific or practical value, and they cover nearly the whole domain of the upper-air tract. The volume is well printed and neatly bound. It reflects credit upon the publishers, and upon the literary skill of the Secretary of the Association.

A Treatise on Diphtheria Historically and Practically considered, including Croup, Tracheotomy and Intubation. By A. SANNÉ, Docteur en Médecine, etc., Paris. Translated, Annotated, and the Surgical Anatomy added. Illustrated. By Henry Z. Gill, A.M., M.D., LL.D., Late Professor of Operative and Clinical Surgery in the Medical Department of the University of Wooster, at Cleveland, Ohio. St. Louis, Mo.: J. H. Chambers & Co. 1887.

The scope of this work is sufficiently clear from its title. It is a thick volume of 656 pages, and leaves but little unsaid on the subject of diphtheria. The tables giving the mortality from croup and diphtheria in different countries, will prove very valuable. This work will be of use as a book of reference.

Elements of Botany, including Organography, Vegetable Histology, Vegetable Physiology, and Vegetable Taxonomy, and a Glossary of Botanical Terms. By EDSON S. BASTIN. Chicago: G. P. Engelhardt & Co. 8vo. pp. 282. Figures, 459.

The number of text-books on botany published in this country has become so large, that one wonders who buy them. Practically, they are all much alike in quality, but vary considerably in quantity. The present work is well printed, and, in general, well illustrated, and the author has included nearly all subjects of general botanical interest, which he has reduced to a convenient book-form. The parts which treat of organography, histology, and physiology are good presentations of the subject, well written, easy to read, and more accurate in statement than is generally the case in text-books covering so wide a field. A defect in the book is that the author has attempted to cover too wide a field in too few pages. This is seen in that part of the book relating to the classification of plants, which includes only about fifty pages, and is not so well illustrated as the rest of the book. It seems to us that the reader would hardly get a clear impression of the different divisions of the vegetable kingdom from the condensed account here given, and it would have been better to omit this part of the work, unless the subject could have been treated more *in extenso*. The yeast-plant and its allies may be classed under *protophytes*, but they certainly do not belong to the *schizomycetes*. The statements about the locomotion of *desmids* and *diatoms* are likely to mislead the reader, and the accounts of *myxomycetes* and *ascomycetes* could not be understood by those who are not already well read in the subject. In short, the present "Elements," if we except the part on classification, afford a good text-book for persons who have advanced beyond the stage of beginners.

The introduction of practical exercises at the end of some of the chapters, as is the custom of a good many writers of text-books at the present day, does not seem to us to be worthy of commendation. In the present work, the practical exercises come nearer to being practical than in some works which might be named, but, even here, the practical is not always to be distinguished from what, on the one hand, is so simple as to be superfluous, or, on the other hand, is too complicated to be undertaken without an instructor.

Outlines of the Pathology and Treatment of Syphilis and Allied Venereal Diseases. By HERMANN VON TEISEL, M.D., and MAXIMILIAN VON TEISEL, M. D., translated by H. RAPHAEL, M.D. New York: D. Appleton & Co. 1886.

This is a translation of the well-known work of the Teisels, father and son, upon syphilis, in which the chapters upon syphilitic affections of the eye and of the larynx and trachea are contributed by Professors Mauthner and Schrötter respectively. The book is a valuable one, being the outcome of a large and well used experience, although the views of the author upon the treatment of syphilis differ from those generally accepted, in advocating the so-called expectant method and in the administration of iodine, rather than of mercury, in the earlier stages of the disease, the latter drug being used only when the manifestations persist for a longer period than four months after the first appearance of general symptoms. In case, however, the symptoms become urgent or dangerous at any time, the authors advise the immediate use of mercury, preferably by inunction, fully recognizing the power of this drug to modify and check the progress of the disease. This so called expectant method of treatment is regarded by the authors as the one which yields ultimately the best and most permanent results. It represents one of the extremes in the different opinions with regard to the proper treatment of

syphilis, and is much preferable to its opposite, namely, the precipitate administration of mercury upon the appearance of what is supposed to be an initial lesion or primary sore, a proceeding which should be mentioned only to be condemned. The portions of the work most open to criticism are those in which the complications and sequelæ of gonorrhœa are considered, the chapter upon stricture of the urethra being notably inadequate. The use, also, of such terms as syphilitic acne, syphilitic varicella, etc., is to be deprecated as misleading and improper. The work of the translator is well done and the notes inserted by him are judicious and to the point. G. H. T.

Ligaments, their Nature and Morphology. By JOHN BLAND SUTTON, F.R.C.S. Philadelphia: P. Blakiston, Son & Co. 1887.

This little book, of about one hundred pages, is very interesting, both as a study in anatomy, and as a contribution to evolutionary literature. The author has recently published several papers on the nature of ligaments in the *Journal of Anatomy and Physiology*, and this treatise is a general discussion of the nature of ligaments and fasciæ. It is well known that in different animals we find that the place of what is a ligament in one may be taken by a muscle in another, or that, on the other hand, it may be represented by bone. We know also, that the origin and insertion of muscles, but particularly the former, are apt to vary in different orders. We know also that in the human fœtus we find temporary conditions that correspond to those of the adult in lower animals. It is evident that a knowledge of these facts gives a new interest to dry details of structure. Mr. Sutton brings to the study a good knowledge of comparative anatomy, and has written an interesting and valuable book. One of the most remarkable discussions is that of the significance of the round ligament of the hip-joint. He considers it the separated tendon of the *pectineus*, which is the homologue of the *ambiens* in birds. Now in the remarkable lizard spenodon the tendon of the *ambiens* passes inside the capsule to the head of the femur. In the ostrich the ligament and muscle are continuous. In the horse the ligaments are in two parts, one of which is continuous with the pectineus outside the joint. We have chosen this as a specimen, for it shows alike the learning and ingenuity of the author, and, as it seems to us, the unsatisfactory nature of the explanation. Is the horse nearer to a common ancestor of birds and reptiles than any other mammal? There is much written of degeneration of tissue and of migration of muscles, as if it were possible to trace the steps of these processes. Here and there, to be sure, we see an approach to a demonstration, but demonstrations founded only on special parts of the body are misleading. Here is an instance of remarkable reasoning: "Even the central tendon of the diaphragm has arisen from the metamorphosis of its muscular fibres; for in the porpoise there is no trace of a tendon, but it is muscular in structure throughout the whole of its extent." If we mistake not, the diaphragm is wholly muscular in no mammals except the cetacea, which are usually considered an aberrant branch. Why then should the porpoise be cited as evidence when this condition is not found in less divergent forms? We are aware that Prof. Albrecht holds that the promammalia were very like the cetacea, but he has few followers, and there is nothing to indicate that Mr. Sutton is one of them. If he were, his position would, in this instance, be more logical. While, therefore, we dissent in many instances from Mr. Sutton's arguments, we wish to recommend highly his work, with this reservation. The interest of the intelligent student is roused by such studies, and he obtains a broader view of human anatomy. T. D.

A System of Practical Medicine by American Authors. Edited by WM. PEPPER, M.D., LL.D. Volume V. Diseases of the Nervous System. 8vo. pp. 1326. Philadelphia: Lea Brothers & Co. 1886.

This huge volume forms a fitting close to the great system of medicine which in so short a time has won so high a position in medical literature, and has done such credit to the profession in this country. Among the twenty-three contributors are the names of the leading neurologists in America, and most of the work in the volume is of the highest value. In a very few instances, of course, the articles are mere compilations, but the great majority are filled with the results of personal investigation, as well as of wide reading, and form a most valuable addition to our knowledge.

In common with the preceding volumes, certain great defects of method must be condemned. The first is the utter lack of system employed in the arrangement of the articles, due largely, we suppose, to the wretched classification of diseases adopted. This want of system, moreover, may be the reason for the many omissions we have noted. At any rate the editors have omitted to include any articles on poliomyelitis of adults, progressive ophthalmoplegia, tetany, the acute diseases of the medulla, or the various forms of peripheral spasm and paralysis. A still greater defect, which has injured previous volumes also, is the utter lack of proportion shown in the space assigned to the different articles. Hysteria and its allied conditions occupy a hundred and fifty pages, while the entire subject of mental diseases gets a little over a hundred, and the disorders of speech have less space than facial hemiatrophy.

We regret that we have not space to speak of the individual articles as they deserve. The following is a list of the contributors and their articles:

Dr. E. C. Seguin, "General Semeiology of Diseases of the Nervous System: Data of Diagnosis;" "The Localization of Lesions in the Nervous System." Dr. C. F. Folsom, "Mental Diseases." Dr. C. K. Mills, "Hysteria"; "Hystero-Epilepsy"; "Catalepsy"; "Ecstasy." Dr. H. C. Wood, "Neurasthenia." Dr. H. M. Lyman, "Sleep and its Disorders." Dr. H. C. Wood, "Acute Affections produced by Exposure to Heat." Dr. Wharton Sinkler, "Headache." Dr. S. Weir Mitchell, "Vertigo." Dr. Wharton Sinkler, "Tremor"; "Paralysis Agitans;" "Chorea"; "Athetosis." Dr. A. McL. Hamilton, "Local Convulsive Disorders"; "Epilepsy." Dr. M. J. Lewis, "The Neural Disorders of Writers and Artisans." Dr. P. S. Conner, "Tetanus." Dr. E. P. Davis, "Disorders of Speech." Dr. James C. Wilson, "Alcoholism"; "The Opium Habit and Kindred Affections"; "Chronic Lead-Poisoning." Dr. C. K. Mills, "Progressive Unilateral Facial Atrophy." Dr. Francis Minot, "Diseases of the Membranes of the Brain and Spinal Cord"; "Tubercular Meningitis"; "Chronic Hydrocephalus"; "Congestion, Inflammation, and Hæmorrhage of the Membranes of the Spinal Cord." Dr. John Ashhurst, Jr., "Spina Bifida." Dr.

E. C. Spitzka, "Anæmia and Hyperæmia of the Brain and Spinal Cord"; "The Chronic Inflammatory and Degenerative Affections of the Spinal Cord." Dr. Wm. Hunt, "Concussion of the Brain and Spinal Cord." Dr. R. T. Edes, "Intracranial Hæmorrhage and Occlusion of the Cerebral Vessels, Apoplexy, Softening of the Brain, Cerebral Paralysis." Dr. H. D. Schmidt, "Atrophy and Hypertrophy of the Brain." Dr. H. C. Wood, "Syphilitic Affections of the Nerve-centres." Dr. C. K. Mills and Dr. J. H. Lloyd, "Tumors of the Brain and its Envelopes"; "Tumors of the Spinal Cord and its Envelopes." Dr. Mary Putnam Jacobi, "Infantile Spinal Paralysis." Dr. H. D. Schmidt, "Disease of One Lateral Half of the Spinal Cord"; "Progressive Labio-glosso-laryngeal Paralysis." Dr. F. T. Miles, "Diseases of the Peripheral Nerves." Dr. J. J. Putnam, "Neuralgia." Dr. M. Allen Starr, "Vaso-motor and Trophic Neuroses."

Elements of Physiological Psychology. By GEORGE T. LADD, Professor of Physiology in Yale University. 8vo. pp. xi, 696. 114 illustrations. New York: Charles Scribner's Sons. 1887.

The new Physiological Psychology may fairly be said to have taken as one of its fundamental theses, with the change of a single word, Moleschott's once ridiculed dictum, "*Kein Gedanke ohne Phosphor.*" One of its assertions to-day, accepted by many of its students, is "*Kein Gedanke ohne Hirnsubstanz.*" Prof. Ladd is the first, we believe, who has attempted to present to the English reader a complete review of the entire subject. In the present work he has followed Wundt, whose "*Grundzüge der physiologischen Psychologie,*" has been his guide. Beside Wundt, however, he has been a firm disciple of Lotze.

Such a study of "the effort to approach the phenomena of mind from the experimental and physiological point of view" is, of course, of the utmost interest, and we began the perusal of Prof. Ladd's volume with the highest anticipations. He decries all declamation, and aims to set forth "the assured or alleged results of Physiological Psychology," reserving to himself the right to accept only the results that are assured. Prof. Ladd has also brought to his task a thorough knowledge of nervous physiology, and has prepared himself for his work by a careful and exhaustive examination of the literature of the subject. Nevertheless, we must admit that we closed the volume with a feeling of disappointment. Psychology is not a branch of knowledge that admits of mathematical demonstration, and upon many of the problems of mind, mankind will probably never agree, yet since the phenomena of mind have been approached from the new basis, much has certainly been added to our knowledge. Since the self-contemplation of the metaphysicians has been discarded, and since to the study of the workings of our own consciousness the data afforded by the anatomy and physiology, the development and the pathology of the nervous system have been added, we have been enabled not only to explain on an intelligible basis the simpler actions of the mind, but to resolve the higher actions into their component parts, so as to afford us some idea, vague and fragmentary though it may be, of the processes that are involved in the workings of the mind.

With this new psychology, Prof. Ladd is at variance. He divides his book into three parts; the first dealing with the nervous mechanism, the second with the correlations of the nervous mechanism and the mind, and the third with the nature of the mind. His discussion of the physiology of the nervous system and of the quality of sensation is in every way admirable, and so far he follows the teachings of the modern psychology. At this point, however, he branches off. With some of the modern German philosophers he "has gone back to Kant," in denying the empirical basis of our ideas of time and space, and in claiming that they "can never be regarded otherwise than as due to the constructive and synthetic action of the mind." Feeling is not a form of sensation, but "an original and underived form of consciousness, or mode of the operation of the conscious mind." In regard to consciousness itself, he asks whether its phenomena "require the assumption of one real and non-material being as the subject and ground of them all," and answers his question in the affirmative. "The subject of all the states of consciousness is a real unit being, called mind; which is of non-material nature, and acts and develops according to laws of its own, but is specially correlated with certain material molecules and masses forming the substance of the brain."

Such an assumption at once leads to difficulties. To any one trained in modern science, with the conservation of energy as one of its main tenets, the belief in a non-material something which can act on a material substance is untenable, and yet Prof. Ladd's further statements directly assert that this non-material mind acts on the material brain. "No sensations will arise in the mind unless the brain be affected in a certain way," although "all sensations are modes of the behavior of a being that is non-material and a unit being, and is called mind." The material brain and the non-material mind are mutually dependent in their modes of behavior, yet their connection is not to be found, and the difficulty which arises from the want of such a connection is treated as of no consequence. Yet it is "impossible to avoid speaking of the connection of brain and mind in terms of causation." "The assumption that the mind is a real being, which can be acted upon by the brain, and which can act on the body through the brain, is the only one compatible with all the facts of experience."

Prof. Ladd will admit the teachings of the new psychology only so far as they are thoroughly well-established. He fails to take into his calculations the data afforded by a study of the development and pathology of the mind, and, when asked to push his reasoning further, to resolve the complex processes of mind into their component parts, and to try to explain the unknown in terms of the known, he exclaims that "the theory, standing on a slender basis of real fact, makes a leap into the dark which carries it centuries in advance of where the light of modern research is now clearly shining." He therefore makes a still greater leap which lands him in a metaphysical bog where real fact is altogether lost sight of, and thence he sinks to a concluding chapter of quibbling on the old subject of the idealism of Berkeley that would do credit to the schoolmen.

The high anticipations with which we began the book were not realized, for we closed it with weariness at the incomplete reasoning, the neglect of analysis of the higher mental phenomena, the repeated beggings of the question, and the final descent into the verbal hair-splittings of the metaphysicians.

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KÖLLIKER'S ADDRESS BEFORE THE GERMAN ANATOMICAL SOCIETY.

WITHIN a year the anatomists of Germany have formed a Society which promises to be an important one. Nearly two hundred members are enrolled, representing many countries, France, Italy, England, Russia and the United States, and we believe others. The first meeting was held at Leipzig on April 14th and 15th. There were many interesting and valuable papers; but the great event of the meeting was the address by the President, Prof. Kölliker, the full text of which has been but recently received. There are probably not many men fitted to speak on anatomy with so much authority and able to take so comprehensive a view of the wide field which includes coarse and minute anatomy, comparative as well as human, anthropology, evolution, or at least a part of it, and the wonderful minute changes in the nuclei of cells. Prof. Kölliker began by speaking of the scattering of anatomical literature through many journals in many languages. The confusion, which is already great, threatens to become greater. He suggests that authors should write for strictly anatomical journals and should write either in German, English, French or Italian.

After this introduction, the speaker took up the theory of descent and treated his audience to a scholarly, dispassionate discussion of the subject viewed from an anatomical standpoint, saying but very little that had any bearing on psychology. The discussion is not, therefore, a complete one, in the widest sense, but as giving the views of a distinguished anatomist on anatomy, one of great weight. He began by calling attention to the fact that apart from numberless shades of individual opinions there are two great schools of evolutionists. The first, and from their noisy assertions one would think the only one in England and America, is that which believes in gradual changes from external causes and clings to the belief that acquired peculiarities can be inherited. The other school, to which Kölliker himself belongs, believes in sudden changes from internal causes. The gulf between these two views is so great that it can hardly be bridged over. Kölliker, though evidently firm in his convictions, admits that no one can foretell the result, and that as yet neither theory is established. His whole tone is in most refreshing contrast to that of the followers of Haeckel, who with what some must regard as extreme dogmatism insist on their theories being accepted as beyond question. The great difficulty in Darwinism proper of accounting for the want of intermediate types, disappears if sudden changes are admitted. Kölliker replies to Weisman's criticism that the sudden change theory in no way accounts for the fitness of animals for their environment, by pointing out that animals like the butterfly and the frog, which change rapidly from very different forms, are none the less well adapted to their surroundings. His own words are worth quoting: "The hypothesis of a development, from internal causes, of organisms which progress with greater or smaller leaps in a definite direction upward is indeed not proved. It rests, however, on a series of undoubted facts, as on the ontogenesis of the higher organisms which run with a set of leaps through lower forms, as is shown most clearly in the cases of metamorphosis, and which therefore brings more in support of what occurs than Darwin's theory which has as yet in no single instance furnished a probable explanation of great changes."

This discussion naturally led to that of heredity, of the transmission of acquired peculiarities and as to what is meant by an internal cause, as opposed to external ones. Kölliker rejects the commonly received opinion that acquired peculiarities are inherited and is opposed in this matter to no less a man than Virchow. Now the question arises what is meant by "acquired?" If we say that it implies an external cause we seem to have a pretty fair definition, but Virchow considers the action of the spermatozoon on the ovum as an external cause.

Kölliker disputes this and puts his points strongly. The earliest beginning of the embryo contains the male as well as the female element. The action of one might be called an external cause as well as that of the other. The child inherits from the father as well as from the mother. He concludes, however, that there is no great difference between his views and those of Virchow, provided the latter be willing to call "internal" all causes proceeding from the impregnated ovum. Several other anatomical questions are lightly touched but not dwelt upon, as Kölliker naturally reserved space for histology. He takes up, to tear to pieces, Heitzmann's theory that bodies do not consist of separate elements but are conglomerate multinuclear masses of which the elements join one another. This has been advanced as destroying Schwann's cell doctrine, but according to Kölliker what is true in it is not new and what is new does not bear examination. Space does not allow us to consider this point at length, nor more than to mention that the next topic was the structure of the cell and

the process of division. At length the speaker came to anthropology, and he expressed himself as quite agreed with Virchow that the "missing link" is not likely to be found, and further that the relations of the various human families to one another are by no means settled. Kölliker points out that after all, those who take his view of evolution, namely, that of sudden changes, have no "missing link" to search for. We were surprised to find that Kölliker thinks that the human race need not have had a common ancestor but that different portions may have appeared independently. This seems to us a departure from the caution that is characteristic of the address as a whole. Even if an analogy could be established, as some believe, in the origin of important organs, it gives no warrant for such a generalization.

The address is an important one, for it shows the state of many questions, at least the anatomical side of them, with great clearness, which is of no small value in the confusion that results from vague discussions and bitter partisanship.

REPORT OF THE ENGLISH COMMITTEE OF INQUIRY INTO PASTEUR'S TREATMENT OF HYDROPHOBIA.

IN April, 1886, a committee was appointed by the President of the Local Government Board (England), to inquire into Pasteur's treatment of hydrophobia. The report was recently presented to Parliament, and abstracts of its important features are furnished by the late English medical journals. The report is signed by James Paget (chairman), T. Lauder Brunton, George Fleming, Joseph Lister, Richard Quain, Henry E. Roscoe, J. Burdon Sanderson, and Victor Horsley, secretary; names which will be immediately recognized as making a very strong committee for the purpose for which it was appointed. The conclusions of such a committee, especially if of a positive character, as they are in this instance, should, and undoubtedly will, go far to dispel the doubts which were beginning to find more frequent expression as to the value of the reports of the cases treated at the Pasteur Institute and the reliability and safety of Pasteur's method of preventive inoculation against hydrophobia.

Three members of the committee, besides the secretary, Messrs. Roscoe, Lauder Brunton, and Burdon Sanderson, studied the process and its results in Paris, where the method of treatment was observed. Information was obtained from Pasteur himself, and by his courtesy a personal investigation was made of ninety cases inoculated by him, these being mostly those which had been earliest treated, those in which the periods since inoculation were longest, and those living in or within easy reach of Paris.

Mr. Horsley, the secretary, subsequently made a careful series of experiments as to the effects of the method of inoculations upon the lower animals.

As the final stage of the inquiry the results of the investigation in Paris and of the experiments by Mr. Horsley were submitted to the remaining members of the committee, Messrs. Paget, Lister, Quain and Fleming, for a critical examination.

Mr. Horsley's experiments were regarded as entirely confirming M. Pasteur's discovery of a method by which healthy animals may be protected from the infection of rabies, a method of protection comparable with that which vaccination affords against infection from small-pox. The duration of the immunity conferred by this inoculation is not yet determined, but during the two years that have passed since it was first proved, there have been no indications of its being limited. The importance of this discovery, whether for its practical utility or for its application in general pathology, the committee considers that it would be impossible to overestimate.

The committee also thinks it certain that the inoculations practised by Pasteur have prevented the occurrence of hydrophobia in a large proportion of those who, if they had not been so inoculated, would have died of that disease, and furthermore, his discovery shows that it may become possible to arrest, by inoculation, even after infection, other diseases besides hydrophobia. Up to the end of 1886, of two hundred and thirty-three persons bitten by animals in which rabies was *proved*, and subsequently inoculated, only four died, whereas ordinarily without inoculation, forty should have died. Between the end of last December and the end of March, Pasteur inoculated five hundred and nine persons bitten by animals *proved* to have been rabid; of these only two have died, one of whom, bitten by a wolf a month before inoculation, died after only three days treatment.

As another result Pasteur's researches have supplied a sure means of determining whether an animal which has died under suspicion of rabies was really affected with that disease or not.

In regard to the dangers from inoculation the committee concluded that there is no evidence or probability of any danger to health at all, from the first or usual method, but after the *intensive* method, which has been practised only in the most urgent cases and has since its first trial been modified, deaths have occurred which might possibly be attributed to the inoculation rather than to the original infection.

From the consideration of Pasteur's work in the past, the committee passes on to the question whether rabies or hydrophobia can be prevented in the future in England, and the committee evidently believes in the desirability of establishing a Pasteur Institute in England, though a regard to official usages apparently forbade its making such a recommendation in formal terms.

An appendix is added to the report, containing (1) an abstract report of Mr. Horsley's experiments; (2) a report on persons in France examined by members of the committee with a list of English persons treated at the Pasteur Institute from January, 1886, to January, 1887; (3) an account of Pasteur's methods of preventive inoculation. The whole forms undoubtedly the strongest and most convincing endorsement which

Pasteur's methods and results have yet received, an endorsement which, in the absence of fuller details emanating from him, was much needed.

THE TEACHING OF TEMPERANCE BY MANIKINS.

IN an age when the gravest forms of epilepsy are cured by tenotomy of a rectus oculi muscle; when insanity, hysteria, and neuralgia are remedied by hypnotic passes, and patients with anæsthesia, monoplegia and paraplegia are restored by plates of gold, copper, and even india rubber, it is not surprising that short and easy methods of inculcating habits of virtue, sobriety and temperance should have occurred to certain clever men of genius whose supreme *end* (to put the matter in a right shape), is the promotion of morals, whose *means* is the making of a little money.

Our State legislators have wisely decreed that the youngest as well as the oldest of the pupils in the public schools shall be taught the physiological and pathological effects of strong drink and tobacco. Gray headed, wise men in the pedagogic profession shook their heads and said: "the question is one of complexity and difficulty"; but the friendly artist comes to their aid and says: "It is perfectly easy — do you see this picture? This is the stomach of a total abstinence man. How pale it looks! Now just look at this fiery red stomach. This is the effect of one glass of grog. Take two and you will have a stomach like this — see these diphtheritic patches, and this slate-colored appearance. But if you keep on drinking you will have a stomach like this: see these ghastly-looking ulcers! And here is a healthy heart, and here is a *tobacco heart!* See how puckered it looks, and all the blood is squeezed out of it. And here are the tobacco kidneys all bathed in pus!"

No one can doubt that such an object lesson as this will make a deep and lasting impression on the dullest and most obdurate scholar. This is a truly fortunate age in which we live; and when we think of the risks previous generations have encountered, and the temptations to which they have been subjected we can but wonder that they have made any — even a *poor* advancement — without the aids to sobriety and virtue which are now available to the youngest and poorest juvenile pupils of our public schools, owing to the far-seeing prudence and liberality of our school committees.

Who would consent again to tread the slippery paths of youth without the guiding help of a manikin?

MEDICAL NOTES.

— At a meeting of the Hospital Medical Society of Paris, M. Ferrol brought up the case of a patient, aged fifty-six, suffering from cancer of the stomach, in whom the subclavicular glands were infiltrated. This is his fourth case in which he has noted the enlargement of the subclavicular glands in this disease.

— It should not be forgotten that the late Professor Mark Hopkins, one of the foremost thinkers and teachers in philosophy of his generation, was a regularly graduated doctor of medicine. He took his degree in medicine in New York, in 1829, and sought to form a business partnership with an older practitioner in Binghamptom, N. Y. Failing in this aim, he was after three months called permanently away from the practice of medicine, by accepting an invitation to the chair of Rhetoric and Moral Philosophy in Williams College, with which institution he remained identified as professor and as president during his long and active life.

—The Paris correspondent of the *Philadelphia Medical Times* says that considerable comment has been made in that city on a phrase in a letter that Billroth, of Vienna, has written in one of the newspapers there. Speaking of Pasteur's work, he said, "Well, we don't blame the French for applauding so much Pasteur's discovery, for not only have they not made any great progress in science these last twenty years, but they are following with difficulty and halting steps the colossal progress of German and English science." To put it mildly, this way of talking by the great Vienna surgeon has caused a great deal of irritation in Paris, says the writer, and Herr Billroth is curtly reminded that he and others are much indebted for their education to such men as the illustrious dead French surgeons were, not to mention the ones now living. They also ask him what sort of a man in neuropathology Germany can present in the last twenty years to compare with Duchenne (of Boulogne), Vulpian, Charcot, etc., or in physiology with Magendie, Flourens, Longet, Bernard, P. Bert, Brown-Séquard, etc.

— Cholera is reported as very active in Catania, Sicily.

BOSTON.

— Dr. Henry J. Bigelow, our readers will be glad to learn, is rapidly recovering his health after an illness which had lasted some weeks and caused much anxiety to his friends.

— During the past week whilst most of the United States have been suffering from a more than torrid atmosphere, the thermometer in many places rising well above 100° F., and the death-rate in some cities, among the very young and those exposed to the sun, reaching truly epidemic proportions, in eastern New England the temperature has not risen above the eighties, and the air has been fresh and pleasant.

NEW YORK.

— A case of death from an over-dose of chloral was reported last week. The victim had been using the drug for insomnia for about a year, and some six months ago came very near dying from the effects of an unusually large dose.

— Dr. Jared Linsley, one of the most venerable and highly respected physicians of New York, died at the family homestead as Northford, Conn., on July 12.

He was born at this place in 1803, and graduated at Yale College in 1826. He received his medical degree from the College of Physicians and Surgeons, New York, and at the time of his death was one of the trustees of this institution. Dr. Linsley had a large and lucrative practice, and was always noted for his kindness of disposition and many generous benefactions.

— Mr. Martin, of the Columbia College School of Mines, who has been making an examination of some of the ice cream which made a number of persons ill on the Fourth of July, reports that the specimens sent him were too small to furnish unmistakable evidence of tyrotoxicon; but his investigations indicate that the cream employed was stale at the time it was used, so that fermentation had begun when the ice cream was made. This was arrested by the process of freezing, but no doubt commenced again in the stomach of those eating the ice cream, and thus gave rise to the sickness.

— On July 9, the summer corps of physicians to visit the tenement districts was organized by the Board of Health. Thirty-seven medical men, being the entire list received from the Civil Service Examining Board as eligible for positions, were appointed, and the number will be increased to fifty as soon as practicable. This extra service, which had been maintained during the heated term for a number of years, and which is now resumed, had to be discontinued last year, it will be remembered, on account of the failure of the authorities to make the requisite appropriation for its support. Special pains will be taken to make the service more efficient than ever during the present season, and Dr. Moreau Morris of the Health Department has been designated to take charge of the work of the corps. Careful instructions will be given the visiting physicians by the President of the Board of Health, Mr. Bayles, by Commissioner Bryant, by Sanitary Superintendent Day, and by Dr. J. B. Taylor. The latter has charge of the department of contagious diseases, and the effort will be made to ferret out and report every case of this kind among the tenement population. The members of the corps have been informed that the policy of the Board of Health will be to give the preference in appointments next year to those who do the best work this summer, and that they will also be preferred over new men in permanent appointments in the department when vacancies occur. The Board of Health has asked the coöperation of the various dispensaries in the city in the work of the corps in furnishing medicines to those too poor to purchase them on the prescription of the physicians belonging to it.

— The large mortality from contagious diseases which has prevailed during the present year has recently been the subject of considerable discussion by the Board of Health, and since the appointment of Dr. Bryant as Health Commissioner, steps have been taken which it is hoped will materially reduce the number of cases and deaths in the future. Up to the present time only cases of small-pox and typhus fever have been removed to hospital; but it has now been determined, on account of the danger to the public health, to treat in the same manner all cases of diphtheria, scarlet fever, measles, and other contagious diseases which cannot be properly isolated at home. Preparations have already been begun at the Willard Parker Hospital, at the foot of East Sixteenth Street, for the reception of those suffering from such affections, and the attention of the Board of Education has been called to the danger likely to arise from permitting janitors' families to reside in the public school buildings, on account of the possibility of infection in the event of contagious disease occurring among them.

— Dr. Taylor, of the bureau of Contagious Diseases, reports that since January 1st, there has been 1,132 deaths from diphtheria, 663 from measles, and 246 from scarlet fever, and in his opinion the prevalence of these diseases is due in a great measure to the ignorance of the tenement-house population in regard to their dangerous character and their gross carelessness in the matter of the necessary precautions for preventing the spread of such contagious affections. Special care will also be taken that there is no improper exposure of those who die, that well persons are not exposed to contagion at wakes or public funerals, and that clothing, bedding, and premises are promptly and thoroughly disinfected. There are several new pavilions at North Brother Island which it is proposed to set apart for convalescents, and, by thus removing those able to go, sufficient room will be secured for the accommodation of acute cases at the Willard Parker Hospital.

Miscellany.

INJURIES OF BASE BALL PLAYERS.

Dr. A. H. P. Leuf, writes a timely article in the *Medical and Surgical Reporter* on the above subject, of which he speaks from personal knowledge both as a physician and as a participant in the game. Among the other injuries spoken of are the subluxations so commonly met with. On this point the author says: "I have a finger on my right hand which presents one of these thickenings. It was derived from five successive injuries received at the same place within one week while I was serving an apprenticeship to the game. It was treated *secundum artem*. The result was bad. Every one of the other nine fingers have been injured since, and some as badly as the specimen mentioned, but to-day they are perfectly normal. They were not treated according to the "best surgical methods," but according to base-ball custom. This consisted in continuing to play, and, whenever opportunity offered, either in the street, in the office, on cars, or upon the field, in firmly grasping the finger at about the middle and rubbing towards the tip. If continued a little while, the swelling, stiffness and soreness diminish and after some weeks are entirely gone."

Compound dislocations, while not common, have been observed by the writer to do well when simply pulled into place and bandaged moderately tight. Playing in each instance was continued the very next day or after a few days rest at most. Primary union was the rule.

In the treatment of base-ball injuries, great stress is laid by the writer on hot water. "Nothing else," he says, "compares with it. Its effects in the relief of pain are almost instantaneous. It is easily applied, and inexpensive. To be effective, the water must be hot as can be borne, and it must be kept so for an hour at a time if possible. The most marked swelling of the hands and severe pain can thus be reduced within twenty minutes. Otherwise it would require hours and be accompanied by some suffering. I have repeatedly observed that nothing will do so much harm to a player as to have him abstain altogether from playing because he has some trivial injury or sore muscles. No other treatment should be attempted for subluxation and simple dislocations without at first liberally using hot water. After this, it is best to surround the injured member with adhesive plaster and to place over all a moderately firm finger-bandage. The player may then continue playing if he choose."

THE PUPIL IN ITS SEMEIOLOGICAL ASPECT.

IN an interesting paper in the July number of *The American Journal of Medical Sciences*, Mr. William Macewen, of Glasgow, gives a brief outline of the physiological phenomenon pertaining to the movements of the pupil, and then presents a series of personal observations. He cites evidence to show that the suspension or abolition of cerebral function in the living body is attended by mydriasis, the latter being the sequent of the former. If inquiry be made concerning the mechanism inducing this pupillary effect coincident with the arrest of cerebral function, the theory which explains the greater part, if not the whole of the phenomena, is that which has been so ably advocated by Mosso. The passive movements of the pupil are regulated by the vascular system of the iris, which is in complete harmony with that of the encephalon. In these conditions inducing general suspension of the cerebral function, a state of ischæmia pervails in the brain and iris inducing mydriasis. This, likewise, obtains in unilateral lesions, where the pressure is so great as to induce anæmia of brain and iris. Myosis may also be brought about by a like mechanism acting in the opposite direction. The "irritation" setting up congestion of the cerebral and meningeal vessels, leads to congestion of the vessels of the iris, and so produces contraction of the pupil.

Dr. Macewen shows that when the function of the brain is in abeyance the pupils are in a state of stabile mydriasis.

When the function of the brain is interfered with by conditions usually included under the term "irritation," the pupils are in a state of myosis, sometimes labile, but generally stabile myosis.

The same pathological factors which cause myosis may also cause mydriasis, the degree in which these factors are present being the determining point between the former and the latter, and not merely the particular locus in the brain.

When the function of one-half of the cerebrum is placed in abeyance by a superficial or cortical lesion, the pupil on the same side as the lesion is in a state of stabile mydriasis.

When the functions of one-half the cerebrum is interfered with by some source of cortical irritation, the pupil on the corresponding side to the lesion is in a state of myosis.

Hæmorrhage into the pons Varolii when strong causes strongly contracted pupils; but when it is more extensive, involving the gray matter beneath the aqueduct of Sylvius, a state of stabile mydriasis is induced.

Dr. Macewen concludes by pointing out the conditions under which myosis and mydriasis occur.

DILATATION OF THE RIGHT VENTRICLE, AND ITS EXPLORATORY PUNCTURE.

PROFESSOR Schrötter describes in the *Med. Jahrbücher* (Vienna), 1887, Heft, 1, and *London Medical Record* June 15, a case of the above mentioned lesions treated by exploratory puncture. The patient, a girl, aged 14, had always suffered from severe palpitation and breathlessness, and presented the following signs. The face and extremities were very cyanotic; the cervical veins showed distinct systolic pulsations. Right side of thorax in front projects more than left. Respiration, 26. Apex-beat of heart not visible anywhere, but palpable in the left sixth intercostal space, just outside the nipple-line. The cardiac dulness began just internal to the apex-beat, and reached horizontally across the lower end of the sternum to the right nipple-line. On the left side it extended upwards to the lower border of the fourth rib, half way between the nipple and sternal lines; on the right side it reached as high as the lower edge of the third rib, and at the level of the fourth rib reached outwards almost to the nipple-line, whilst a little lower it became continuous with the mammary line as far as the sixth rib. On auscultation, a double murmur was heard at the heart's apex, less distinct at the base, where the second pulmonary sound was accentuated.

On auscultation, vesicular breathing on both sides, with medium crepitations, and a few rhonchi. There were evidently mitral insufficiency and stenosis, together with tricuspid insufficiency. But how was the peculiar form of the cardiac dulness to be explained? Was it due to a pericardial or to a circumscribed pleuritic exudation, or to extreme distension of the right ventricles? As the cyanosis and dyspnœa increased, an exploratory puncture was made with the needle of a Pravaz' syringe. Pure blood escaped, as was expected. (Professor Schrötter has already advocated the puncture of aortic aneurysms in certain cases — *see* Ueber Therapie der Aorten aneurysmen, *Deutsche Archiv. für Klin. Med.*, 1884, Band vi.— and was convinced that the operation was not dangerous.) The operation had no appreciable effect upon the patient, who died nearly three weeks afterwards. The autopsy made by Professor Kundrat showed that the right ventricle was enormously distended. The right lung presented adhesions at the edge and outer surface of the upper and middle lobes. This accounted for the fact that inspiration had made no difference in the cardiac dulness, and also for the

peculiar shape of the latter. The valvular lesions were found to exist as diagnosed. No trace of the exploratory puncture could be seen.

Correspondence.

PREMATURE DISCHARGE OF AMNIOTIC FLUID.

MILTON, N. H., July 16, 1887.

MR. EDITOR,— Perhaps the following case of Clinical Obstetrics may be of interest to some of your more inexperienced readers like myself.

Mrs. P., menstruated last about October 15th, 1886. I was called to see her at 10 o'clock, May 15th, 1887. I found the nurse there and the patient in bed. I learned the following facts:

At about 4 o'clock she got up and passed water, went to bed and slept. She was soon awakened by a large gush of water, which she thought came from "the breaking of the waters." After this she had a few slight pains which ceased before my arrival.

Digital examination showed the head presenting, low down in the pelvis, the os dilated to the size of a half-dollar, the vagina covered with a fluid containing floculi like the vernix caseosa. She was up next day, and in a few days felt better than before.

On July 13th, she had an unnaturally short labor, the waters breaking just before the birth of the head. Between May 15th and July 13th, she had no abnormal symptoms.

Yours truly,

C. D. JONES, M.D., (Harvard 1885).

REPORTED MORTALITY FOR THE WEEK ENDING JULY 11, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	1276	462	46.64	6.32	.40	3.52	39.44
Philadelphia	993,801	555	320	30.96	8.46	.90	1.44	24.48
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	254	157	43.68	9.36	1.17	1.17	34.44
Boston	400,000	263	107	22.80	11.78	1.52	1.14	14.06
New Orleans	242,750	107	32	14.88	13.02	—	—	12.09
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	113	57	32.56	14.96	1.76	—	29.92
Pittsburgh	210,000	165	102	39.04	5.49	2.44	1.22	31.72
Montreal	186,237	—	—	—	—	—	—	—
Milwaukee	170,000	99	56	25.25	5.05	2.02	1.01	18.18
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	55	33	32.76	3.64	1.82	—	30.94
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	26	14	34.64	11.55	—	—	23.70
Charleston	60,145	37	17	13.50	13.50	2.70	—	8.10
Portland	40,000	10	1	30.00	30.00	20.00	—	10.00
Worcester	68,383	34	17	49.98	2.04	—	—	44.10
Lowell	64,051	50	23	36.00	10.00	4.00	2.00	26.00
Cambridge	59,660	27	25	29.60	11.10	—	—	22.20
Fall River	56,863	39	15	46.08	10.24	—	—	40.96
Lynn	45,861	14	7	14.28	7.14	—	—	14.28
Lawrence	38,825	21	12	28.56	9.52	—	—	28.56
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	11	8	54.54	—	—	9.09	18.18
Somerville	29,992	24	11	24.96	12.32	—	—	24.96
Salem	28,084	12	3	—	16.66	—	—	—
Holyoke	27,894	11	9	72.72	—	—	18.18	40.40
Chelsea	25,709	7	5	14.28	—	—	—	—
Taunton	23,674	6	—	—	—	—	—	—
Haverhill	21,795	12	5	—	25.00	—	—	—
Gloucester	21,713	8	0	—	12.50	—	—	—
Brockton	20,783	3	2	66.66	—	—	—	—
Newton	19,759	4	2	50.00	—	—	—	50.00
Malden	16,407	10	4	10.00	20.00	—	—	—
Fitchburg	15,375	6	1	—	—	—	—	—
Waltham	14,609	3	1	66.66	66.66	—	33.33	—
Newburyport	13,716	6	1	—	16.66	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 3,268: under five years of age 1517; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1,201, consumption 270, acute lung diseases 133, diarrhœal diseases 979, diphtheria and croup 66, measles 31, typhoid fever 32, cerebro-spinal meningitis 23, scarlet fever 21, whooping-cough 21, malarial fever 17, erysipelas six, puerperal fever three, small-pox (New York) three. From measles, Boston nine, Philadelphia seven, New York five, Baltimore and Cambridge two each, Milwaukee, Nashville, Charleston, New Bedford, Chelsea, and Malden one each. From cerebro-spinal meningitis, New York four, Boston three, Baltimore, Milwaukee, Nashville, Lowell, New Bedford and Brockton two each, Philadelphia, Worcester, Fall River and Holyoke one each. From scarlet fever New York nine, Philadelphia eight, Pittsburgh one. From whooping-cough, New York seven, Philadelphia five, Boston four, Pittsburgh two, Baltimore, Milwaukee, and Fall River one each. From malarial fever, New York nine, New Orleans three, Philadelphia and Baltimore two each, District of Columbia one. From erysipelas, New York, three, Baltimore, Pittsburgh and Worcester one each. From puerperal fever, Pittsburgh two, New York one.

In the 19 cities and greater towns of Massachusetts, with a population of 937,510 (population of the State 1,941,465) the total death-rate for the week was 27.12 against 21.77 and 20.50 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending June 25th, the death-rate was 17.6. Deaths reported 3,115: infants under one year of age 741; acute diseases of the respiratory organs (London,) 184, measles 213, whooping-cough 127, diarrhœa 69, scarlet fever 43, diphtheria 31, fever 29.

The death-rates ranged from 7.2 in Halifax to 30.1 in Preston; Birkenhead 18.7; Birmingham 13.6; Hull 13.0; Leeds 18.6; Leicester 16.4; Liverpool 22.0; London 15.9; Manchester 26.8; Nottingham 13.3; Sheffield 19.0; Sunderland 14.9.

In Edinburgh 19.0; Glasgow 20.6; Dublin 27.6.

The meteorological record for the week ending July 9, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, July 9, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, 3	30.07	76.0	88.0	71.0	73.0	78.0	78.0	76.0	W.	E.	S.	10	15	12	C.	F.	F.		
Monday, 4	30.15	78.0	88.0	70.0	78.0	51.0	77.0	69.0	W.	S.W.	S.W.	6	24	17	C.	F.	C.		
Tuesday, 5	30.16	76.0	85.0	70.0	74.0	61.0	84.0	73.0	S.W.	S.	S.	12	12	10	O.	O.	F.		
Wednes., 6	29.95	76.0	83.0	72.0	86.0	72.0	86.0	81.0	S.	S.W.	S.	15	18	10	O.	O.	O.		
Thursday, 7	29.83	79.0	88.0	72.0	82.0	45.0	63.0	63.0	S.W.	W.	S.W.	13	18	10	F.	F.	C.		
Friday, 8	29.85	73.0	82.0	67.0	66.0	77.0	74.0	72.0	W.	E.	S.	6	10	4	C.	C.	C.		
Saturday, 9	29.81	73.0	83.0	66.0	90.0	52.0	86.0	76.0	S.	S.	S.	4	22	8	F.	O.	T.	½hr.	.01
Mean, the Week.	29.974	75.9	85.0	80.0				72.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 9, 1887, TO JULY 15, 1887.

HEGER, A., lieutenant colonel and surgeon. Ordered to Fort Columbus, N. Y. H.

JANEWAY, J. H., major and surgeon. Ordered to Benicia Barracks, as post surgeon, also as attending surgeon at Benicia Arsenal, Cal.

BIRMINGHAM, H. P., captain and assistant surgeon. Ordered to Fort Myer, Va.

WOODRUFF, C. E., first lieutenant and assistant surgeon. Ordered to Fort Mackinas, Mich.

WINNE, C. K., captain and assistant surgeon. Ordered to Fort Wadsworth, N. Y. H.

HAVARD, VALERY, captain and assistant surgeon. Ordered to Fort A. Lincoln, D. T.

MAUS, L. M., captain and assistant surgeon. Ordered to Fort Schuyler, N. Y. H.

GIRARD, J. B., captain and assistant surgeon. Ordered to Fort Lowell, Ariz.

POINDEXTER, J. D., first lieutenant and assistant surgeon. Ordered to Camp Poplar River, M. T.

MACAULEY, C. N. B., first lieutenant and assistant surgeon. Ordered to Fort Gibson, Ind. T.

BYRNE, C. B., captain and assistant surgeon. Ordered to Washington Barracks, D. C.

WILCOX, T. E., captain and assistant surgeon. Ordered to Fort Niobrara, Neb.

LIPPINCOTT, H., major and surgeon. Ordered to Fort Union, N. M.

CLEARY, P. J. A., major and surgeon. Ordered to Fort D. A. Russell, Wyo.

CALDWELL, D. G., major and surgeon. Ordered to Fort Assinniboine, M. T.

TORNEY, G. H., captain and assistant surgeon. Ordered to Fort Robinson, Neb.

REED, WALTER, captain and assistant surgeon. Ordered to Mount Vernon Barracks, Ala.

PATZKI, J. H., captain and assistant surgeon. Ordered to Fort Huachuca, A. T.

EBERT, R. G., captain and assistant surgeon. Ordered to Fort Custer, M. T.

PILCHER, J. E., first lieutenant and assistant surgeon. Ordered to Fort Monroe, Va.

GARDINER, J. DE B. W., captain and assistant surgeon. Ordered to Fort Washakie, Wyo. T.

CHAPIN, A. R., first lieutenant and assistant surgeon. Ordered to Newport Barracks, Ky.

FORWOOD, W. H., major and surgeon. Ordered to Fort Snelling, Minn.

PERLEY, H. O., captain and assistant surgeon. Ordered to Fort Wayne, Mich. S. O. 156, A. G. O., July 8, 1887.

S. O 159, par. 2, A. G. O., July 12, 1887. Assigned Captain W. Matthews, assistant surgeon, as member of Army Retiring Board at Washington, D. C., and relieves Captain J. O. Skinner, assistant surgeon.

EBERT, R. G., captain and assistant surgeon. Will, in changing station from Fort Hamilton, N. Y. H., to Fort Custer, Mont., accompany the 12th Infantry from Department East to Department of Dakota. S. O. 159, A. G. O., July 12, 1887.

MAUS, L. M., and PERLEY, H. O., captains and assistant surgeons. Ordered to accompany the 11th Infantry in changing station from Department Dakota to Department East. S. O. 158, A. G. O., July 11, 1887.

GARDINER, E. F., captain and assistant surgeon. Ordered to accompany the 12th Infantry from Madison Barracks to Duluth, and to return with 11th Infantry. S. O. 143, Division of the Atlantic, July 13, 1887.

WALKER, F. V., first lieutenant and assistant surgeon. Granted leave of absence for four months. S. O. 160, A. G. O., July 13, 1887.

CABELL, JULIAN M., first lieutenant and assistant surgeon. Ordered for duty as medical officer at Department Rifle Camp, near Bellevue, Neb., August 1st, next. S. O. 66, Department Platte, July 8, 1887.

A board of medical officers to consist of Major J. S. Billings, Surgeon; Captain W. Matthews, Assistant Surgeon; Captain F. C. Ainsworth, Assistant Surgeon, is constituted to meet in this city for the examination of a candidate for admission to the Medical Corps of the Army. S. O. 157, A. G. O., July 9, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING JULY 16, 1887.

LONG, W. H., surgeon. Granted leave of absence for thirty days on account of sickness, July 12, 1887.

AUSTIN, H. W., surgeon. Granted leave of absence for thirty days, July 16, 1887.

WATKINS, R. B., assistant surgeon. Relieved from duty at Marine Hospital, Detroit, Mich.; ordered to assume charge of Service at Evansville, Ind., July 9, 1887.

DEATH.

Died at Nantucket, July 9, 1887, John Sullivan Bogg, M.D., M.M.S.S., of Springfield, aged thirty-eight years.

BOOKS AND PAMPHLETS RECEIVED.

Eighteenth Annual Report of the State Board of Health of Massachusetts. 1886.

The Relation of the Nervous System to Hæmophilia, Malarial Hæmaturia, etc. Second Paper. By C. H. Hughes, M.D., St. Louis. 1887.

Thirteenth Annual Announcement of the Medical Department, University of Tennessee, Nashville Medical College. Session of 1887-88.

A Unique Case of Bi-Lateral Athetosis. By C. H. Hughes, M.D., St. Louis, Neurologist on the Staff of St. Louis Protestant Hospital, Lecturer on Nervous Diseases, St. Louis Medical College, etc. 1887. (Reprint.)

Le Iniezioni Intrapleurali e le Crisi Epilettiche Loro Teoria del Dott. Giovanni Pascale. Estratto dal Morgagni, Anno xxix, 1887. Napoli-Milano. Dott. Leonardo Vallardi, Editore. 1887.

Original Articles.

ON THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE, AND ON CERTAIN POINTS IN THE SYMPTOMATOLOGY OF CHRONIC LEAD POISONING.[1]

BY JAMES J. PUTNAM, M.D.

For a number of years past, several of my colleagues and myself have had the urine of patients with a variety of obscure diseases of the nervous system examined for lead, and have been surprised at the frequency with which it has been found to be present.

Wishing to learn whether this occurred only in certain classes of cases, or in the healthy and the sick alike, I have tried of late, with the valuable aid of Professor E. S. Wood, and of Dr. A. M. Comey, of Harvard University, to have these analyses made in a more or less routine fashion, though still giving prominence to the cases in which I had first found lead the most frequently.

The whole number of urine-analyses on which I have to report is eighty-six. In none of these cases were the classical symptoms of lead poisoning, such as colic, marked cachexia, characteristic cerebral attacks, characteristic paralysis, blue-line on the gums, unequivocally present. Twenty-six of the cases have been reported in two previous communications,[2] but are here re-analyzed. All of these patients took five or ten grains of potassic iodide three times daily for four or five days, and then collected a quart of urine, which was acidified with a little acetic acid and sent for examination.

The cases may be divided, for convenience of analysis, into the following groups:

Description.	Cases.	Lead.	
		Present	Absent.
1. No symptoms not attributable to other causes.	11	2	9
2. Neurasthenia and simple depression.	9	5	4
3. Fine muscular tremor; nervous debility.	9	9	0
4. Chronic multiple neuritis; neuritis with chronic myelitis; spastic paraplegia; multiple sclerosis.	19	15	4
5. Vague neuralgias of long standing, probably due in part to neuritis.	4	4	0
6. Locomotor ataxia.	3	0	3
7. Progressive muscular atrophy.	4	0	4
8. Acute poliomyelitis of adult.	1	0	1
9. Cerebral and cerebro-spinal cases.	7	6	1
10. Epilepsy.	8	3	5
11. Sciatica.	2	0	2
12. Profound anæmia, with functional and organic nervous symptoms probably due to that cause.	3	1	2
13. Unclassified.	6	3	3
	86	48	38

Before proceeding to examine these groups in greater detail, I wish to call attention to the character of the evidence and the degree of accuracy, to be expected in an investigation of this kind.

It is well known that we are all taking in small quantities of lead, in our food and our drink, the articles we handle, and even in clothes we wear, and through the matches with which we are liable to light our pipes. It might be maintained as probable that, in view of the fact that lead enters readily into stable compounds with the albuminoid tissues of the body, we all carry about with us more or less of the poison,[3] and yet do not often suffer from its presence.

This conservative view is a wholesome one, and places the burden of proof, with justice, upon the shoulders of the observer who lays new groups of symptoms at the door of chronic poisoning from lead. This makes it important that the observations of many persons should be compared and combined before definite conclusions are drawn, and the present series of cases is offered only as a guide to further inquiry. The method of chemical analysis used in these analyses and first devised in its present form by Professor Wood,[4] is as follows: —

The urine is first evaporated to dryness, then fused in a crucible, with the addition of a little pure nitre, till it becomes white. The crucible is then cooled, and dilute HCl added, hot, to extract the residue after ignition. It is then filtered, and the filtrate treated with ammonia to alkaline reaction, to precipitate the phosphates and iron. Sulphide of ammonium is added at the same time, which throws down the sulphide of iron and lead. This is washed three times by decantation with hot water, then water is added, and the whole acidified with HCl, and allowed to stand until the next day. It is then filtered through a small filter and the residue washed. A little pure (free from iron) nitric acid is then added, drop by drop, by which the sulphide of lead, if present, is dissolved and carried through as nitrate of lead. This is collected in a watch glass, evaporated to dryness, and the final test made by the addition of a drop of water and a crystal of iodide of potassium. Finally, to eliminate bismuth, the iodide of lead is again dissolved in water, and re-precipitated in a test-tube with dilute sulphuric acid. The test-tube is allowed to stand twenty-four hours, and is then twirled gently between the fingers. The sulphate of lead, if present, rises in a delicate spiral.

Dr. Wood believes that this method is exceedingly delicate, and his opinion is borne out by the frequency with which lead has been found when not expected, and by the fact that he has rarely failed to find lead in cases of undoubted poisoning, which is by no means the experience of every investigator.

Such cases do, however, occasionally occur, under this as under all the other methods, and a negative analysis of the urine, especially a single analysis, is not a certain proof that the metal is really absent from the body.

Of the whole number of (eighty-six) cases, lead was found in the urine in forty-eight; in thirty-eight it was not found. If, for the sake of determining more accurately to what extent the presence of the lead is due to an exposure no greater than that to which the whole community is liable, we strike out those cases where the patients, through their profession, or some evident source of poisoning, were known to have been unusually exposed, we have left thirty-two cases in which lead was found, to be compared with thirty-eight where it was not found. We must conclude, so far as these figures are a guide, that, at the outside, in not more than fifty per cent. of persons living in the community at large, can lead be detected in the urine.

It may, of course, be argued, as indicated above, that the failure to find lead still more often probably

[1] Read before the Association of Physicians and Pathologists, June, 1887.

[2] Boston Medical and Surgical Journal, 1883, CIX, No. 2. Journal of Nervous and Mental Disease, 1887, XIV.

[3] See a terse and characteristic report made by Dr. Jacob Bigelow to the Boston Society for Medical Improvement in 1852.

[4] See the Boston Medical and Surgical Journal, Oct. 4, 1883, CIX, page 316.

shows only that the process is imperfect, but it is also to be borne in mind, as affecting this question, that although all persons are doubtless exposed to lead, some persons may eliminate the poison more rapidly and completely than others.

The obvious solution of this question would be furnished by chemical analysis of the organs of persons not presenting symptoms characteristic of lead-poisoning. So far as I know this has never been systematically done, but the following bit of evidence from Dr. Thomas Stevenson, of Guy's Hospital, is worth quoting.[5]

"It has been recently stated by M. Armand Gautier, that ordinary persons take lead to the extent of at least $\frac{1}{150}$ grains daily in their food. My own extensive experience leads me to the conclusion that it is exceptional to find a trace of lead in the body, except in cases of lead-poisoning, but that, on the other hand, it is equally exceptional not to find traces of copper in the human body after death."

Dr. W. B. Hills, assistant professor of chemistry at Harvard Medical College, has also told me that in making analyses of the human tissues he had often found copper but had never happened to find lead. He thinks, however, this may indicate only that lead is present in minute quantities, not that it is absent.

To turn now to the special groups of cases, the *first group* (those in which no symptoms were present which could not be fairly attributed to other causes than lead), contains eleven cases.

Of these eleven cases, three were of persons in perfect health; two were cases of sciatica; one a case of muscular atrophy not characteristic of lead, and affecting but one arm; one was a case of acute localized neuritis; three presented vague symptoms of no especial importance; one was a case of abdominal sarcoma. I will also mention that Dr. Comey examined four samples of his own urine, though without taking potassic iodide, and found no lead.

In two of these cases lead was found, in nine it was absent. This group is obviously too small to be of much statistical value, and the history of at least one of the cases where lead was found, which was that of a patient with abdominal tumor, but of excellent previous health, makes it more than probable that that others of like kind could be found on longer search.

The number of cases in this group might be somewhat increased if we should include in it those now set down in groups two and nine, of chronic functional nervous diseases, the neurasthenias and the epilepsies, which are those which could be with the least probability attributed to lead. If we do this, we raise the number of cases with no characteristic symptoms to twenty-eight, in ten of which lead was found. This gives us a provisional proportion of one to three as indicating the probable frequency of occurrence of lead in discoverable quantities without causing signs of disease.

If we add still further to this first group, the third group, characterized by symptoms of debility, such as might be due to many causes, but also by slight muscular tremor, recurrent paræsthesia of the hands, and other symptoms pointing possibly to slight organic disease, we get thirty-seven cases, in nineteen of which lead was found. In other words, we come back to the original proportion of fifty per cent. in favor of lead in healthy persons, which is, I think, undoubtedly too large.

[5] Guy's Hospital Reports, 1882, xxvi, p. 483.

In the *second group of cases*, a variety of neurasthenic and mild mental symptoms were present, without marked signs of nutritive disease, local or general. This group comprises nine cases, in five of which lead was found, while in four it was absent.

The cases are not sufficiently alike to form a coherent series, and I do not care to dwell upon them longer than is necessary to point out that the literature of lead-poisoning and the history of one of these cases in particular, lends support to the view that purely nervous symptoms may be due to lead, and may exist for a long time without the supervention of signs of marked organic disease. Thus, Leudet, describing the cerebral symptoms which he had seen among a large number of painters, says:[6]

"Several painters, before they had shown any signs of cachexia, suffered from mental delusions, confusion and hebetude."

Insanity of different types has been reported by a number of writers.[7] Clevenger[8] has described a case of melancholic depression with epileptiform convulsions in a lead worker, associated with blue-line on the gums "and other symptoms of lead-poisoning," who recovered under potassic iodide and other treatment. Kiernan[9] besides giving a number of references to other writers, gives an analysis of thirty cases of insanity apparently due to lead-poisoning, which were observed by himself. Some of these cases confirm the opinion which I have expressed. I will refer to only one case of those which I have observed.

It is that of an intelligent Scotch workman in a factory-town of Massachusetts, who had used for ten years water which was drawn through a two-inch lead pipe, from a well twenty-five feet distant, the end of the pipe remaining in the well. His family history was moderately neuropathic. His symptoms consisted in tremor of the hands, which had first been observed three years before, after the confinement and debility attending an operation for hæmorrhoids. Ever since that time he has felt weak and has worked but little, partly from that cause, but mainly because of distressing nervous symptoms, such as noises in the head, a feeling of soreness at the vertex, and, especially, frequent attacks consisting in a sort of aura sweeping over the body and head, the so-called "rush of blood."

His appearance was that of an excitable, but intelligent and naturally healthy man. The pulse and heart were normal. There was no anæmia, though this may have been masked by a natural fulness of the cutaneous vessels. The lips and tongue trembled slightly, as well as the hands. Lead was found in the drinking-water and twice in the urine. At a third examination it was absent. His improvement under treatment was marked and continuous.

This case leads us naturally to the *next group*, where it perhaps more properly belongs. This group of cases is allied to the last, but characterized by a greater prominence of disturbance of the organic functions. The general complaints were rather of lack of vigor, and of special nervous symptoms, rather than of general nervous instability or erythism, and yet there was no sufficiently marked organic disease to demand a special pathological classification.

[6] Recherches sur les accidents causés par l'empoisonnement saturnine. Rouen, 1882.

[7] See Barteus; Allgem. Zeitschrift für Psychologie, 37, 1881, Ullrich; ditto, 1883.

[8] Chicago Medical Journal and Examiner, 1884; quoted in the Journal of Nervous and Mental Disease, April 1884, p. 308.

[9] Chicago Journal of Nervous and Mental Disease, 1881.

In this group there are nine cases, in all of which, as it happened, lead was found in the urine. Five of them were examined for lead simply because they showed muscular tremor of the hands, or hands and lips, associated with some general debility or vague pains. Two, were cases of "recurrent paræsthesia" of the extremities, a symptom which it has of late been suggested may be due to slight multiple neuritis. If that is true, it might be supposed that a certain proportion of the cases would follow poisoning by lead, which imminently tends to attack the peripheral nerves. One of the patients in whom these symptoms of debility and tremor were well marked, and accompanied with increasing nervousness and sleeplessness, of four years duration, was a printer, and his urine contained a large amount of lead. His knee-jerk was very lively, especially on one side, but this symptom was less marked at a second examination, and there was no ankle-clonus. Its possible significance will be referred to later.

This group is related to that which follows (fourth group), in which I have put together the cases where symptoms of multiple neuritis were present, with others in which symptoms of chronic myelitis were associated with those of neuritis, and finally a number of cases characterized clinically as "spastic paraplegia," and due, perhaps, to degeneration limited to the motor tracts of the spinal cord. I have also included two cases apparently of multiple sclerosis of the spinal cord.

In this group of cases the chief interest of this investigation centres. For if it can be shown that lead poisoning leads to the symptoms of spastic paraplegia, or to some forms of it, especially those which are somewhat irregular in their clinical history, and are associated with signs of peripheral neuritis, on the one hand, and with more or less disorder of the general nutrition of the body, on the other, we shall have made a practical gain in our knowledge of a distressing disease.

This group of peripheral, mixed paripheral and spinal, cases contains nineteen cases, in all but four of which lead was found in the urine.

Of the four in which no lead was found, one was a case with chronic progressive spastic and ataxic symptoms, attended with difficulty in the retention of urine. The patient was a young girl, and the case probably belongs with the developmental diseases of the spinal cord. The other three were pretty typical cases of spastic paraplegia, one of them associated with some muscular atrophy of the arms. The cases in which lead was found were characterized by such symptoms as the following:

(1) Paræsthesia of the hands and feet (two middle toes), twitching of the fingers, exaggeration of the knee-jerk, especially left.

(2) General feebleness; paræsthesia in legs with slight anæsthesia; twitching of muscles of legs; marked improvement under treatment; malarial history.

(3) Spastic paraplegia; cramps and twitching of the calves; knee-jerk and ankle-clonus exaggerated; history of chancre; lead found twice in urine and a considerable quantity also in drinking-water.

(4) Trembling of hands; sense of coldness and numbness in toes; lancinating pains in legs; fatigue on exertion.

(5) Marked progressive spastic paraplegia with myosis and loss of pupillary reactions; ataxia and some atrophy of hands.

(6) Progressive weakness and stiffness in legs with diffused and almost universal pains; marked tremor; great improvement for a time under treatment.

(7) Temporary pain in chest with slight dyspnœa; progressive numbness, heaviness and weakness in legs; eventually rather rapid recovery.

(8) Numbness in feet and legs with impairment of strength; tremor of hands and tongue; some wasting of small muscles of hands; temporary retention of urine.

One case is of peculiar interest as an instance, probably, of very severe and wide-spread neuritis of a type unusual in lead-poisoning, and characterized by a very marked ataxia; of motion, in short, a pseudo-ataxia of peripheral origin. It was reported briefly in the *Journal of Nervous and Mental Diseases*, January, 1887 (Case VIII.)

The next case is, I believe, of a similar though less serious character. It is that of a young lady [10] of fifteen, of excellent previous health, who during the six months previous to my examination, which was in April, 1887, had shown successively the following symptoms: diffused headache of moderate severity; numbness and prickling of right hand; temporary difficulty in completely controlling the sphincter of the bladder; some months later, strabismus coming on gradually and slowly increasing, attended by dizziness, confusion of eye-sight and eventually by double vision; at the same period, numbness and prickling of left hand, especially at the ends of the fingers, continuing day and night, but eventually passing away; moderate ataxia of both upper and lower extremities; grasp of the left-hand weaker than that of the right, and small muscles of hand perhaps slightly atrophied; exaggerated knee-jerk, and trace of ankle-clonus; impairment of motions of both eyes, especially right, almost or wholly confined to muscles supplied by third pair; steady and rapid improvement, apparently aided by potassic iodide; eventually complete recovery.

That these are instances of multiple neuritis, not as is the rule with lead-poisoning confined to the motor tracts, but involving the sensory as well, and thus causing the ataxia, cannot, I think, be doubted. Analogous if not exactly similar cases have been reported under the name of pseudo-tabes, due to peripheral neuritis from alcohol and arsenic [11] and Renaut, [12] in his excellent monograph on chronic lead-poisoning, reports one of the same kind, evidently due to lead, which was observed by Raymond, who says in another place, that he has seen three cases of the kind.

The next case is likewise interesting as showing symptoms of progessive spinal character, involving almost exclusively the motor functions and associated with marked anæmia. It resembled in these two respects another case which I have placed in a different group, characterized by progressive anæmia, progressive transverse myelitis and death.

The patient had been a carriage-painter for thirteen years. His present symptoms consisted in 'numbness" of the feet and legs throughout their full extent; fatigue in walking and marked muscular weakness, great constipation; similar symptoms in arms but to a less degree; no pain; marked exaggeration of knee-jerk and ankle-clonus. The duration of

[10] Seen in consultation with Dr. P. Wadsworth, of Malden, Mass.
[11] Gazette Medicale de Paris, 1876, Vol. 35.
[12] On Pseudo-tabes from Arsenical Poisoning, etc. Charles L. Dana. Brain, Part xxxvi, January, 1887.

the symptoms was about one year and a half. No albumen was found in the urine, nor other signs of chronic nephritis. The skin was very pale, with a yellowish cast. There is no distinct ataxia, and yet the movements are rather exaggerated; no history of colic; no apparent weakness of the extensors of the fingers; no blue-line. Lead was found twice in the urine. The patient improved markedly under iodide of potash and a large quantity of food, but lately has failed steadily. The exaggeration of the knee-jerk, and the presence of ankle-clonus, in this last and some of the preceding cases leads us to (group IV) the cases of spastic paraplegia, amyotrophic spastic paraplegia, and paraplegia with ataxia, to which I have already alluded. These, together with the cases of probable multiple spinal sclerosis, number ten, and in all but three of them lead was found in the urine.

(To be continued.)

CAN CIRRHOSIS FOLLOW TRAUMA? A CASE OF MEDICO-LEGAL INTEREST.[1]

BY DR. F. W. STUART, BOSTON.

THE case which I am to report is one of twofold interest, namely, from a medico-legal and from a pathological standpoint.

Oct. 3, 1885, during the service of Dr. E. O. Otis, J. B., aged ten years, came to the Carney Hospital. His family history was good. He had always been well up to 1882, when he had an abscess on the left side of his neck which suppurated for two years, and resulted in contraction of the left side of the neck. He had visited the Carney Hospital in June, 1885, when the following note was made: "Patient listless, loss of appetite, diarrhœa three days; contraction of sterno-mastoid on the left side due to an old abscess, tenderness over the site of the old gland and in the region of the pneumogastric." The patient complained only of swelling of his abdomen. He was very irritable, and cried so much that it was impossible to make a careful physical examination, though it was evident that there was fluid in the peritoneal cavity, fluctuation being well marked. He was given Syrup Ferri Iodidi, and told to return the next day for a careful examination.

The patient returned Monday, Oct. 5th, Drs. E. O. Otis, W. H. Devine and myself being present. We were now told that on the previous Tuesday the patient had been kicked by a schoolmate, and that the disease dated from the day of the assault. A careful history was now taken, and a thorough physical examination made. The patient's mother stated that he had always been well up to the time of the assault, with the exception of the abscess and the attack of indigestion mentioned before. She said that he was nervous and irritable, but attributed this to the fact that the boys of his age were constantly irritating him on account of his wry neck. Otherwise he was a strong, healthy and cheerful boy. On Tuesday, Sept. 29th, while playing in the street he became involved in a disturbance with a schoolmate, and, though an exact story of the quarrel could not be obtained, it was established that the patient had been knocked down and while lying on his back had been stamped upon, the heel of the assailant striking him in the abdomen. The patient spat up some blood, walked into his house not far away, complained of some pain, but the next day was able to attend school. On the Saturday following, his mother first noticed that his abdomen was swollen; and brought him to the hospital.

Physical examination showed the patient to be well developed for a boy ten years old, but he was decidedly pale and cachectic in appearance. His temperature was normal, and his pulse and respiration were but little hurried. Heart and lungs were normal. His abdomen was much enlarged and fluctuating. On percussion there was dulness everywhere, with some areas of flatness, and the percussion note was unaffected by a change in the patient's position. The urine was high colored, specific gravity 1021, albumen one-eighth per cent., and the sediment contained some renal epithelium, urates, and a few casts. The existence of an exudation was of course very evident, and a diagnosis of chronic peritonitis was easily made, but at the same time it was felt that there must be something underlying the peritonitis.

In attempting to diagnosticate the disease more accurately, some differences of opinion were developed, though it was considered to be very probable that the case was one of tubercular peritonitis. The absence of any tubercular trouble in any of his relatives, as well as the absence of any pulmonary signs in the patient tended to negative this view.

In a few days the distension became more marked, the genitals were very œdematous, and the breathing became embarrassed. On October 16th, the abdomen was aspirated, and about two quarts of a clear serous fluid were drawn off, it being impossible to aspirate more than a small part of the exudation, owing to its being sacculated. At the same time the genitals were punctured with a needle and the fluid allowed to trickle away. During this time the patient bled very frequently from his gums. Under symptomatic treatment the effusion largely disappeared, and the patient was able to attend school again. This improved condition lasted for some time, after which the fluid began to reaccumulate, and a scrotal hernia was developed on the left side.

Again there was improvement, and in May, 1886, the patient returned to the hospital to see if something could not be done for his neck.

Examination at that time showed still evidences of the exudation, and the borders of the liver and of the spleen were undeterminable.

July 3d, the boy who assaulted our patient was tried in the police court on the charge of having committed a felonious assault, and I was the only medical witness summoned.

The facts were testified to as stated above, though the testimony also unintentionally drew out the information that the patient had for months been subject to bleeding from his mouth.

I was asked whether in my opinion the kick received caused the patient's disease. I answered that I thought that the injury did not cause the existing trouble in the sense of starting it up, de novo, though I admitted that possibly it might have hastened a previously existing disease.

My conclusion was based on the following considerations. It did not seem to me that the injury had started up an acute peritonitis, because the patient was not very sick, that is, he had not been confined to his bed, he had no marked fever, and had not complained much of pain. Furthermore, it seemed to me that so

[1] Read before the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, May 11th, 1887.

large an effusion thrown out in four days would have perceptibly embarrassed his respiration and quickened his pulse. Therefore it seemed to me that the assault merely served to call attention to a previously existing condition, which it at most had aggravated.

The question then asked was, Could the hernia be due to a weakening of the abdominal walls at the point of the injury induced by the kick? I thought not, and attributed the hernia to simple distension of the abdomen by the fluid.

Finally, I was asked if the spitting up of blood was not proof that the kick had caused some internal injury. I answered decidedly, no. The patient may have received a blow on the mouth, may have bitten his tongue in falling, and in any event this symptom could have but little weight in determining the force of a blow in one who so often before had "bleeding from his mouth."

The defendant was, however, bound over to the Superior Court, and a hearing before the grand jury resulted in the finding of a true bill.

July 25th, Dr. Devine was called to see the patient, and afterwards Dr. Otis saw the case with him. The patient then had great distension of the abdomen, and general œdema. Tapping was advised, but not consented too by the parents.

August 4th, the patient complained of great pain in his abdomen, his pulse was rapid, temperature high, and the general constitutional disturbance great. Dr. Devine, who was then attending the patient, attributed these symptoms to an acute exacerbation of the peritonitis. The patient died August 6th, and an autopsy was made by Dr. F. W. Draper, Medical Examiner, at 2.45 P. M. of the same day, Drs. Devine and myself being witnesses. Dr. Draper has very kindly sent me his notes of the case, which were as follows:

AUTOPSY.

By Dr. F. W. Draper, Medical Examiner, at 2.45 P. M., August 6, 1886.

Body very pale; a little livid discoloration of dependent parts.

Rigor mortis absent.

No appearances of decomposition.

General anasarca, — œdema of face, arms, hands, thorax, abdomen, genitals, legs and feet.

Abdomen distended with fluid; fluctuation well marked.

Scrotum large and red. At the left inguinal ring, there was an opening sufficiently large to admit the index finger easily.

Internal examination. The peritoneal cavity contained one hundred and seventy-two fluid ounces of clean, thin, serous fluid.

The heart was normal.

The lungs were œdematous and injected in their lower and posterior portions.

The spleen was enlarged to four times its normal volume; it was softened and its section presented limited areas of diffuse hœmorrhagic infiltration.

The kidneys were moderately enlarged, pale, with normal relations between the cortical and medullary portions; their capsules were free.

The liver was reduced to the size of a man's fist; it was of very dense consistency, light yellow color, with thick interstitial partitions between the lobules and a great number of small nodules upon its surface.

The intestines and apposing surfaces of the abdominal organs were firmly adherent at numerous points by strong bands representing a former inflammation of the peritoneum; and layers of soft lymph at various situations indicated more recent peritonitis. The peritoneum was thickened and opaque. There was no purulent exudation. The peritoneum and mesentery were œdematous and the dependent parts of the intestinal folds showed limited patches of hœmorrhagic infiltration.

The stomach and intestines presented nothing remarkable upon internal examination.

The mesenteric glands were normal.

The brain was soft and œdematous.

Diagnosis: Chronic interstitial hepatitis; chronic hyperplasia of the spleen; chronic adhesive peritonitis; ascites and general anasarca.

Cirrhosis of the liver is so rare a disease in childhood that many of the books specially devoted to children's diseases make no mention of it. Still, in a very hasty review of the literature on the subject, limited to the usual reference books, I find quite a number of recorded cases.

F. Weber[2] and Virchow[3] report congenital cases, Wettergreen[4] reports a case at four; Cayley[5] and West[6] each one at six; Loeschner[7] one at seven; Hauerwas[8] and Wilks[9] each one at eight; Murchison,[5] Frerichs[5] and Griffith,[5] each one at ten; Maggianni[10] one at eleven; Steffen[2] two cases, one eleven the other thirteen, and Wunderlich[3] observed two cases in sisters aged eleven and twelve years respectively. None of these are recent cases, since I did not have time to consult the recent journals.

It is generally admitted that the excessive use of alcohol is the usual cause of cirrhosis, but various others have been given. Flint mentions syphilis, chronic malarial poisoning, chronic phosphorus poisoning, chronic peritonitis, and occlusion of the bile duct as causes to which cirrhosis is often assigned, though he would doubt the efficiency of them. The excessive use of condiments and extension of a perihepatitis have also been charged with producing cirrhosis, while Griffith in the report of his case, alluded to chronic abscess as if it were a recognized cause of this disease. Of the cases cited, Wunderlich, Murchison and West (the latter's patient, a girl of eight being in the habit of drinking a half pint of gin daily) were able to prove that their patients had used alcohol to excess. Wettergreen and West attributed their cases to the excessive use of coffee. The writings of Virchow and the reports of the Italian physicians would lead one to believe that syphilis and chronic malarial poisoning may cause cirrhosis, but in the main one is almost forced to look upon this disease as a specific disease with its specific cause — alcohol. The reader has notes of a case of cirrhosis seen in Professor Bamberger's ward in Vienna. The patient, a girl eleven years old, gave a history of intermittent fever, and to this her disease was attributed. But long after she had been admitted to the hospital it was ascertained that her father kept a "Brantwein-Geschäft," thus making it, after all, more than probable that her trouble was due to alcohol, since in the family of such a man

[2] Ziemassen's Encyclopædia.
[3] Archiv. fur Path. Anat., Band xxii, S. 426
[4] Quoted by London Medical Record, 1881, p 117.
[5] Trans. London Path. Society, vol. 27, 1876.
[6] St. Bartholomew's Reports, 1887.
[7] Guy's Hospital Reports, 1875.
[8] Quoted by Pepper.
[9] Quoted by Niemayer.

brandy was likely to be looked upon as a panacea for all our ills.

It must however be admitted that careful questioning fails to establish an alcoholic habit.

What caused the cirrhosis of the liver in our patient? Did the trauma cause it?

There was no history of the abuse of alcohol, there was no question of syphilis, since parents and brothers and sisters were all healthy and free from any signs of this disease, and the patient had never had intermittent fever. If the injury caused the disease, it first started up a chronic peritonitis, and secondarily to this came the cirrhosis. That such a thing is possible has been suggested, but I think it hardly probable, and in this case I feel that in June, 1885, when the patient was listless, etc., and a diagnosis of indigestion was made, he had beginning cirrhosis.

This would coincide with the opinion arrived at from his physical condition when I first saw him, that his disease dated back weeks at least.

According to Griffith, the chronic abscess may have caused it, but I failed to see the report of any case tending to support such a view.

In conclusion, let me say that I believe it wiser to admit our ignorance of the cause involved in a case so puzzling as this, than to refer it to so hypothetical a cause — as a chronic abscess.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY MYLES STANDISH, M.D.

THE BACILLUS OF ACUTE CONJUNCTIVAL CATARRH.

WEEKS[1] has examined microscopically the mucopurulent discharge of acute catarrhal conjunctivitus. The first case that he examined was a woman of thirty years, in whom the disease had appeared three days previously. The ocular and palpebral conjunctivæ were greatly congested, the lids slightly swollen, and marked photophobia, profuse lacrymation, and a muco-purulent discharge were present. A cover-glass preparation of the secretion, stained with gentian violet, disclosed large numbers of small, well-defined bacilli which were aggragated on and in the pus cells, and free in the mucus. The case recovered in two weeks from the beginning of the attack, under the use of mild astringents. There were two children in the family, one of twenty months and one of four years. The first had suffered from conjunctivitis for two months, the second for six weeks. In both cases the palpebral conjunctiva was injected, and discharging muco-pus. The secretion from both these cases contained many bacilli, such as were found in the secretion from the mother's eyes. Both cases recovered in a week's time, under the use of a zinc collyrium. Dr. Weeks examined the secretions of all cases of conjunctivitis that came to the clinic for two months, without again finding the bacillus, when a man presented himself, who stated that his wife, three children and a servant girl, still had, or had recovered, from a similar form of conjunctivitis.

There was a muco-purulent discharge in each case. In two of the cases the attack was confined to one eye. The cases recovered, as the others had done, under a simple astringent treatment. In all of these cases the bacilli were found in large numbers. In order to determine the contagious nature of this conjunctivitis, Dr. Weeks inoculated the healthy conjunctivæ of rabbits with the secretion from one affected eye, but failed to produce any inflammation of the conjunctivæ. He then inoculated the healthy conjunctivæ of six eyes in five men, who had previously lost their vision, by transferring a small amount of the secretion from the patient's eye to the eyes that were being experimented on. In five of the six eyes inoculated, the same form of conjunctivitis was produced, the bacilli being found in the secretions. Attempts were made to cultivate the small bacillus on agar and gelatine, but although the conditions were made as favorable as possible, the bacillus did not develop. On particles of pus that were transferred to the tubes the bacillus developed rapidly, but could not be induced to feed on the agar, and disappeared in a few days. Subsequently a mixture containing only about 5 per cent. of agar was prepared, and upon this the bacillus developed rather feebly in tubes. It would not grow on plates. The bacillus in the tubes was contaminated with the club-shaped bacillus (or one which soon became clubbed), which developed as rapidly as the small bacillus, and repeated attempts to separate the two proved fruitless. It was easy enough to procure a pure culture of the clubbed bacillus, as it grows quite readily on 1-per cent. agar. Repeated attempts to cultivate the small bacillus on sterilized blood serum failed to carry it beyond the second generation. It develops rapidly in beef tea, but grows very feebly on potato.

The bacillus varies considerably in length, being from one to two micro-millimeters long; in thickness it is always the same, about 0.25 micro-millimeter. Compared with the tubercle bacillus it has about the same thickness, but is considerably shorter. The bacilli were sometimes joined together, forming quite long threads, the division between individual being very indistinctly marked. There was no tendency to a double arrangement, as in bacillus subtilis, or in Leber's bacillus of Xerosis of the conjunctiva. The bacillus under consideration stains readily with watery solutions of fuchsin, gentian-violet, and methylen blue, taking the stain a little less deeply than do the cocci and bacilli ordinarily met with. The eyes of both men and rabbits were inoculated with the pure cultivations of the clubbed bacillus, and no inflammatory reaction occurred. The healthy conjunctivæ of six children were inoculated with the result of the cultivation of the mixture of the small and club-shaped bacillus. The cultivations used for this purpose varied from the fourth to the eleventh generations. In all of these cases the typical muco-purulent conjunctivitis was produced, appearing in about forty-eight hours from the time of the inoculation. The bacillus was present in all as long as the yellowish discharge persisted.

THE MICRO-ORGANISM OF ACUTE TRACHOMA.

Michel[2] was commissioned by the royal government of Lower Franconia to investigate and determine more accurately the nature of an eye disease, seemingly the so-called "Egyptian Ophthalmia," which had broken out in the boys' orphan asylum at Aschaffenburg. The disease apparently was originally introduced into the asylum by a boy who had daily been in the city of Aschaffenburg, attending the gymnasium there. Of the inmates, there were not affected twenty-

[1] Archives of Ophthal., Vol. xv, No. 4.

[2] Archiv. of Ophth., Vol. xv., part 4.

eight, slightly affected fifty-five, and severely affected, fourteen. In the severe forms of the affection the picture of the so-called acute trachoma was well defined. The intensely swollen and hyperæmic fornix, the tarsal conjunctiva, and the conjunctivæ covering of the lacrymal caruncle, were studded throughout with extremely numerous follicles of translucent grayish red form the size of a millet-seed to that of a pea. On everting the lids the conjunctivæ folds sprang forward in a series of reddish ridges. The secretion was moderately copious and purulent, and ordinarily the vascular plexus of the scleral conjunctiva was deeply congested. In nearly all of the cases there was swelling of the pre-auricular glands. These glands were never painful, even on the strongest pressure. They were of moderately soft consistence and elastic. In about thirty or forty of these cases the secretions were examined for bacteria, and in no case could their presence be established.

Inoculations made upon agar-agar with the contents of a pressed-out follicle, developed, before the end of two days, a distinctly visible culture. In general, the cultures presented a thick coating, growing superficially, of a white color, inclining at first to gray, later to a trace of yellow, and with a moist glistening surface and sharply limited borders. The cultures which developed most quickly were those made by inoculation of blood serum and agar-agar at the temperature of the body. In nutrient gelatine the culture developed more slowly, and likewise in egg-albumen. On potato the growth was very feeble. Morphologically, the cultures consisted of diplococci. The double cocci, appearing as if two segments of a ball, resemble the gonococci, and evince an inclination towards grouping themselves in masses similar to sarcine. They are, however, much smaller than the gonococci. Specimens of cocci measured, by means of a Zeiss objective (homogeneous immersion, $\frac{1}{12}$), and of an eye-piece micrometer, gave as average results the following measurements: Length from pole to pole 0.6-08 μ., width in centre 0.4-0.6 μ. The trachoma coccus is distinguishable from the gonococcus, furthermore, by the greater thinness of the line of separation, which in general only becomes distinctly visible under strong magnifying power. It shares with other fission fungi the power of absorbing dye-stuffs, and displays a great affinity for the basic aniline colors. The conjunctivæ of rabbits were inoculated by pricking, and the introduction of bits of the follicle and also of pure cultivations. The results were entirely negative. Knowing that the conjunctivæ of rabbits seems to possess considerable immunity against micro-organisms, as for instance, the gonococcus, Michel regarded it as justifiable to make such inoculations in a certain case upon a man. In this case the right eye had been enucleated, and the left was, owing to meningeal atrophy of the optic nerve, almost entirely blind. Numerous fine superficial pricks were made in the conjunctivæ folds of the upper and lower lids of the right, with a small needle which had been immersed in blood-serum culture. After forty-eight hours an increased mucous secretion was observed, and a few small follicle-like elevations were noticed, which two days later were seen to have increased in size. In the further course of the case fresh elevations appeared in the neighborhood of the altered places, so as to give a complete clinical picture of follicular disease of the conjunctivæ fold. Ten days after the inoculation a follicle was excised, the contents pressed out, and the same inoculated in blood serum. The characteristic culture developed and was recognized by the microscope as a pure culture. Upon the microscopic examination of portions of the affected conjunctivæ, the cocci were never observed in the epithelial layer, but only in the tissue of the follicle itself. They are generally in the form of irregular, roundish heaps, and appear to lie on or between the cells rather than in them.

INCISION OF THE SWOLLEN OPTIC NERVE-SHEATH.

Carter [2] advocates the incision of the swollen optic nerve-sheath behind the eyeball in certain cases of choked disc, and reports the case of a woman with monocular optic neuritis and blindness of the temporal half of the visual field. Headache had existed for ten days, and the left optic disc was much swollen. Mr. Carter considered the swelling due to a descent of fluid from the subarachnoid space to the space between the dural and pal sheaths of the optic nerve; the nerve was compressed by the fluid and the venous circulation was impeded. Under iodides and mercury no improvement resulted. The disc swelled still more; hæmorrhages and patches of exudation also appeared; and with the assent of Dr. Hughlings Jackson, Mr. Carter decided upon an operation, which he first practised on the dead subject. The external rectus muscle was divided; the eyeball then rotated inwards; the sheath of the optic nerve was exposed and opened, and gave exit to the contained fluid. Recovery was uninterrupted, the patient was at once relieved of the headache, which did not return for a month, and ten days after the operation the swelling of the optic disc was found to have diminished one half. Further recovery has resulted.

(To be continued.)

Clinical Memorandum.

IS TUBERCULOSIS OF THE LUNGS EVER CONTAGIOUS? [1]

BY F. I. KNIGHT, M.D., BOSTON.

In July, 1885, a young lady of 19, came to my office with a history of cough of nine months duration. I found signs of phthisis in one lung. Her father was a very strong man; her mother had died of some nervous trouble after child-birth. There had been ten children, five of whom died in infancy, none of them with any brain or lung disease. There had been also six half-brothers and sisters, one of whom had died in infancy. Of the uncles and aunts on both sides, only one uncle had died of phthisis. The patient gradually declined, and died April 15, 1887. She was accompanied in her visits to my office by an older sister, twenty-three years of age, who had given up everything to attend to her. This sister, while not robust-looking appeared well, and said that she had always been so. She occupied the same room and bed with her sister. This I protested against, and advised her to go out regularly every day for walks in the fresh air.

The last record made of their visits to me was in the latter part of October, when the phthisical patient became too sick to come to me, and went under the

[1] Read before the Section for Clinical Medicine, Pathology and Hygiene, of the Suffolk District Medical Society, May 12, 1887.

[2] Lancet, March, 1887, p. 626.

care of her family physician in a neighboring city; she died, as I said, on the 15th of April. On the 19th of April the sister came into my office with the following history. She had continued to attend closely upon the invalid all winter, and had disregarded all my advice. She had even slept with her sister up to within five weeks of her death. She was with her night and day. During the latter part of her sister's life her breath was so offensive that she could eat almost nothing, and only kept herself up by the free use of stimulants. She stated that she had had a little dry, hacking cough for a month. She breathed rapidly, but said there was no dyspnœa. On examination her pulse was found to be 140. Temperature, 104°. On examination of the chest, subcrepitant râles were heard in both upper lobes, front and back, and the diagnosis of acute pulmonary tuberculosis was made. Examinations, April 26th and May 3d confirmed the diagnosis. On the 21st of May, she came to my office so weak that she had to be assisted from the carriage to the house. She reported hæmoptysis of several ounces two weeks before. She was so weak that I did not examine her chest. Pulse, 160; temperature, 103.4°. I did not see her again, and she died June 17, 1886, about two months after I first examined her, and three months after the beginning of the dry cough.

Who can fail to believe that the disease and death of this patient was caused by attendance upon her sister? Hardly any one will deny this. Admitting it, would she have succumbed to acute *pulmonary tuberculosis*, if she had attended upon a sister ill with some other disease? As she had no such hereditary tendency I do not think so. How often do we see patients worn out with much longer attendance upon the sick, and yet not become tuberculous! And how often do we see strong women without the slightest hereditary tendency succumb to attendance upon tuberculous patients.

It is useless to allege in this connection, that ordinary attendance upon the sick in consumptive hospitals does not affect the attendants. I admit this fact, but the attendance is not so prolonged, nor so close as in families. Let any one who has doubt about the clinical evidence bearing upon this point read the little brochure of Webb. The fact is that tuberculosis is so common with us, that we have almost ceased looking for the immediate cause in any case, especially if relationship gives us a chance to attach the blame to heredity. I believe, however, that there are hundreds who have by inheritance that peculiarity of pulmonary soil which favors the development of the tubercular disease, who would not show it unless they were brought into contact with those already affected. Whether all cases require such a transmission of germ we do not know.

In what manner is it probable that the disease is communicated? It has been claimed that bacilli have been found in the breath, but it is, perhaps, more probable that the communication in most cases is by dried sputum, which becomes diffused in the atmosphere. We have abundant proof that tuberculosis can be readily communicated to animals little liable to it, for example dogs, by causing them to inhale for an hour or two a day an atomized solution of the sputa of tuberculous patients. (See the experiments of Tappeiner and others in substantiation of this statement).

So then, I say that the appearance of tuberculosis of the lungs in countries where it was previously unknown, with the ingress of people from countries where it was common, the marked increase in the disease in the neighborhood of health-stations resorted to by the tuberculous, the personal history of the development of cases in our midst, and experimental work with the sputa, all point strongly to the probable communication of the disease under favorable conditions, and make it not only incumbent upon us, in case of pulmonary tuberculosis in a family, to establish precautions against communication of the disease, but makes us criminally negligent in failing to do so.

What precautions shall we take? These pertain (1) to the patient; (2) to the quarters he occupies; and (3) to the exposed attendant.

The patient should be made careful in the disposal of his sputa, either to deposit them in a cup in which some germicide has been placed, or if the patient is feeble and obliged to use cloths let them be destroyed before any drying occurs. It would hardly seem to be necessary to warn respectable patients not to spit about them carelessly, yet I have seen with respectable people the most utter indifference in this regard. I have seen a patient with hæmoptysis lying in bed on his back letting fly his expectoration in every direction, so that the bedding, floor, and walls of the room were well covered with sputa. I have seen a beautiful prima donna of the opera spit right and left over a handsome hotel carpet. Neither of these patients was American. I have, however, seen an American, a distinguished citizen, afterwards United States Minister to one of the European Courts, sit in the office of a distinguished consultant, and squirt a sickly stream of tobacco-juice between his teeth, over a fine straw carpeting just laid.

For disinfection of the spit-cups, Dr. Ernst informs me that a five per cent. solution of carbolic acid is the best. Corrosive sublimate does not answer, as it coagulates mucin, and does not reach the bacilli at all.

In regard to the room: we should secure change of air by every known device, and as long as possible by a daily removal of the patient from his room, for the purpose of thorough ventilation. Clothing and bed-linen should be frequently changed. The absolute value of antiseptic sprays for the room in such cases we know not, and the use of those which are offensive in themselves should not be recommended. But such as are pleasant to the patient and attendant would be of service at least in counteracting the disagreeable odor which attends the last stages of pulmonary disease.

In regard to the exposed persons, let it be said that from the moment tubercular disease is discovered, another person should not occupy the same bed, not only for the sake of the exposed person, but also that of the patient, who will rest much more comfortably alone. Sleeping in the same room should also be forbidden, as we seem to be more susceptible to all infectious diseases during sleep. The attendant should have daily exercise in the open air, and if a relative, an occasional complete change, if possible. In case of any failure in health, this should be insisted upon, and although the physician cannot always prevent self-sacrifice on the part of friends, he can often modify it. At any rate, he should not feel that relief of his patient was his only duty, but that his duty extended to the surroundings of his patient, and required that

these should be arranged with due regard to the protection of relatives and friends.

If there is any decided hereditary tendency to the disease, relatives should, if possible, be prevented from any attendance upon the sick, and put at once upon proper hygiene.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

MAY 11, 1887. The meeting was called to order at 8 o'clock, by DR. F. I. KNIGHT, Chairman. On motion, the records of the last meeting were omitted.

The first paper was by DR. F. W. STUART, entitled

CAN CIRRHOSIS FOLLOW TRAUMA? A MEDICO-LEGAL QUESTION.[1]

Dr. Stuart stated that the medico-legal character of the case, the important questions involved in the examination of the subject had made it a most interesting experience to him, and had taught him some very valuable lessons. It had served to somewhat change his views of the character of the legal investigation of such a case, and had diminished his respect for some of the methods employed for that purpose.

Dr. Stuart said: When I was called into court on this case I was summoned by the prosecution, the evident intention of the District-Attorney being to have as little medical testimony as possible, and to get hold of the youngest physician and break down his testimony. The defendants then tried it. They brought up witness after witness, and finally the policeman on the beat, all of whom testified that this boy was strong and healthy; except one boy who admitted that they called him "pot-belly" once in a while, on account of his protuberant abdomen.

During the trial I was asked to give an exact diagnosis. I said I could not. The judge said that "it made him tired" to hear a doctor say that this boy had been sick when so many people who knew him intimately and saw him daily, testified to the contrary.

After this trial I came to the conclusion that if a young man goes into court and is not sure of his case, he will be brow-beaten and all efforts made to confuse him. I think that this is one of the most difficult places a man can occupy when he is forced to admit that he cannot make a diagnosis. We did not make a diagnosis. This case was one that certainly has given me a great deal of confidence, from the existing medical knowledge of to-day, that that boy had cirrhosis of the liver. I was then inclined to believe, and am still confident that the injury did not cause the trouble which we did not diagnosticate.

DR. BLODGETT said that the insidious character of the disease in the present case, its great gravity, and its fatal termination forcibly reminded him of a case seen at a distance from Boston, in which a somewhat similar and equally unusual course of phenomena were noticed. The patient was a literary gentleman, well known to many members of this Society, who while in the enjoyment of his ordinary good health, was surprised to find that he was becoming weak, and particularly that he was troubled by shortness of breath on making any exertion, sometimes experiencing almost the condition of asphyxia. After a time he sought medical advice, but was able to give absolutely no satisfactory history of the character of his disease. Physical examination revealed the fact that the left side of the thorax was the seat of an extensive pleuritic effusion, the liquid reaching to the level of the sixth rib in the nipple line. Twenty-four hours later, the fluid had increased to such a degree, that there was constant oppression in breathing, and the level had risen to the fifth rib in the axillary line. The case was diagnosticated according to the rational and physical signs, as acute pleurisy, but was considered peculiar from the entire absence of any of the ordinary symptoms of this disease. The case passed into the hands of a very distinguished practitioner, who treated the patient by the constant exhibition of alkalies, and frequent and abundant catharsis, without, however, any attempt to relieve the distension of the pleura by aspiration or puncture, and the patient rapidly sank, and died at the end of four days.

The autopsy showed the conditions diagnosticated during life to have been correct.

DR. HAROLD WILLIAMS asked if the autopsy of Dr. Stuart's case showed any signs of the chronic abscess from which the boy had suffered some years before?

DR. STUART said that there was no internal evidence of any lesion referable to the abscess, no trace of which was found. Griffiths, however, mentions this as one of the causes of cirrhotic disease of the liver.

DR. WILLIAMS remarked that in answer to the question "was the injury the cause of the cirrhosis?" it was conceivable to suppose that the kick might have been the cause of the chronic peritonitis and that the adhesions resulting therefrom might have acted as a cause of the cirrhosis by constricting the blood-vessels of the liver. Dr. Williams asked if the adhesions noticed in this case were found to cause such interference.

DR. STUART replied that this was not the case: That it had been discussed at the autopsy, but that while many adhesions were found, none were in such position as to warrant such a conclusion.

DR. F. I. KNIGHT then read a paper on

THE CONTAGIOUSNESS OF TUBERCULAR DISEASE OF THE LUNGS, WITH A REPORT OF ONE CASE.[2]

DR. STUART: Mr. President, When I was at the Carney Hospital I saw a case of a young lady; she was the stepdaughter of a consumptive who had just died; the question as to whether her mother died of phthisis could not be brought out. The patient did not seem to know. She was one of a family of eight brothers and sisters, all well, and she alone had evidence of phthisis. According to this patient's statement, while her step-mother was sick for fourteen months she had hardly been out of the house. Dr. Devine, in speaking of the case, said he knew of a draw-tender who had buried two wives of phthisis; the draw-tender had the disease of course, himself, and the only conclusion which he could draw from this case was that the draw-tender was out in the open air almost all the time, while his successive wives

[1] See page 76 of this number of the Journal.

[2] See page 79 of this number of the Journal.

were shut up in the house, and thus the course of the disease was made quicker for them.

DR. BLODGETT said that he could not refrain from calling attention to a fact in relation to tuberculosis, which is not sufficiently considered in the treatment of cases of this disease. He was happy to observe that the chairman had laid stress upon the same point, namely, the eminently infectious nature of tubercular disease. There is no doubt that many cases of tuberculosis are communicated from one person to another, but the cases are not followed with that care which is everywhere thought desirable, even imperative, in relation to other infectious and contagious diseases. The time has probably not yet arrived when we can test this class of diseases in the manner which would be applicable to other communicable diseases. We are too much under the domain of public opinion to venture the rational and only real method of treatment which is directed to the peculiar character of the malady in question. We cannot properly utilize the knowledge which we already possess in relation to tuberculosis.

In some foreign hospitals, patients with tuberculosis are treated in the same manner as are those with other dangerous disorders; that is, the sufferer from tuberculosis is segregated from other patients, and is isolated in a ward devoted to infectious diseases, where he is subjected to a rigid seclusion from the other sick to whom the disease might be communicated. Much the same care and seclusion is exercised in relation to tuberculosis as is done with scarlet fever, measles, etc. Dr. Blodgett said that he had recently had a case under his own care in which the germicide treatment was adopted as one of the principal measures of relief, and in which there was an entire disappearance of all symptoms of disease. The patient is the son of a clergyman, and is about forty years old. His father was for many years a sufferer from chronic pulmonary disease, and died after attacks of pulmonary hæmorrhage, presumably of tuberculosis. The mother is still living, but has long been in feeble health. The patient was never a strong man, but maintained his ordinary standard of health until five years ago, when he was the subject of fistula of the anus, for which he was under treatment by surgical measures for a year. Since that time he has been somewhat feeble, and eighteen months ago he began to fail perceptibly. Twelve months ago, he was under treatment for hoarseness, which advanced to a degree which rendered speaking above a whisper almost impossible. At this time he came under the care of Dr. Blodgett, who found distinct ulceration of the larynx, with induration and impaired mobility of the vocal structures; and by microscopic examination the bacillus of tuberculosis was readily demonstrable. The patient was at once placed under treatment by means of tonics, removal to the country, the use of antiseptic lotions and inhalations, principally of mercuric bichloride, the employment of which was rendered tolerable by means of antecedent applications of cocaine. He passed some months on the sunny side of a hill selected with some care in New Hampshire, and late in the autumn returned to Boston. He gave up his previous residence, and removed to the highest part of Newton, into a new house, on sandy and dry soil, where he has since resided. He has steadily improved, his weight has increased from 122 pounds to 140 pounds. He has never been so heavy as at present. He is gaining strength, the voice has returned, and there is every reason for believing that the disease has entirely disappeared.

It is true that this was probably not a case of *contagion*, but it is illustrative of the way in which a disease which is contagious should be looked upon. It would, in all probability, have been perfectly possible for this patient's wife or child to have acquired the disease, by contagion. He had constant attacks of bronchial or pulmonary irritability, frequent catarrhs, and recurrent periods of hoarseness and threatened pulmonary tuberculosis. His system furnished a soil which was peculiarly adapted for the reception of such a disease.

DR. HAROLD WILLIAMS remarked that when a student he had been taught by Dr. Knight that phthisis pulmonalis was communicated by the sick to those in attendance upon them under certain conditions, and that in his practice he had never had occasion to change this view. He had not come prepared to cite cases in proof of this doctrine, but could say that he had never doubted its truth, and that he had each year many cases which confirmed it both at the Boston Dispensary and elsewhere.

The two principal arguments against the view of contagion were: *first*, that phthisis was the commonest disease in our community, one-fifth of our people dying of it, and that cases of its supposed contagion were cases of coincidence. This argument Dr. Williams thought could be answered by saying that the reason of its frequency was because of its contagiousness, and the absence of sufficient precaution in protecting the well against the sick. The second argument of the immunity of the attendants of phthisical patients in hospitals had been answered by Dr. Knight.

Dr. Williams not only believed phthisis to be contagious, but he believed the bacillus to be the element of contagion, and this had suggested to him that the well-known germicide properties of arsenic might account for the efficacy of this drug in phthisis, and that he was conducting some experiments to test this theory. Since reading Jaccoud's book, in which the administration of arsenic is highly recommended, Dr. Williams had employed it in several cases with good results, especially in one girl with phthisis of three month's standing, in which case its administration had been followed by complete recovery. Dr. Williams questioned if the good effects so strongly insisted upon by Jaccoud might not be due to the germicide properties of the drug, rather than to its action as a tonic, and as diminishing blood pressure and calming nervous irritability, as claimed by Jaccoud.

DR. HENRY J. BARNES addressed the Section upon the subject of

MILK-SUPPLY,

as follows:

"At the meeting of March 9th, a preamble and resolution relating to the milk-supply was laid on the table. I move that it be taken up and read.

"Mr. Chairman, the subject of milk-supply has been before us for several years, so that I feel we are all sufficiently informed to now take intelligent action on this resolution. Thus far our influence has been exercised in promoting legislation, and in support of the vigorous policy of our local and State inspectors. Valuable results have been accomplished, highly creditable to these officers, but the last

annual report of Professor Babcock, indicated a persistency in wrong on the part of a few dishonest milkmen, hardly paralleled in the annals of crime. During the past year 167 complaints have been made against 88 different milk-men for having in their possession dishonest milk.

"I think I speak within bounds in stigmatizing this crime, for it not only cheats the purchaser but assails the lives of many innocent beings.

"Professor Babcock publishes the names of those complained of during the past year, and in the list Bennet & Beckman appear twice; Charles M. Black appears four times; Henry S. Draper, five; Byron Eames, four; Seth Eames, four; Stephen F. Forbush, four; Albert F. Hale, five; Benj. F. Holt, fifteen; Chas. E. Kendall, four; Chas. A. Kenneson, six; John H. Kenneson, five; Mary P. Merriam, seven; Joseph W. Moore, seven; Orson Young, five; besides many others which appear once, twice or three times each.

"This dark record I believe to be chiefly due to a faulty system, which holds for twenty-four hours in secluded and often unsanitary places, milk which should go directly from the car to the consumer, as is the custom in other cities, so far as I am informed. As a rule only those persons who take milk by wholesale receive their supply on the morning of its arrival in Boston. I cannot believe there is any person here but desires a reform in this regard, although we may differ in opinion as to the best method of its accomplishment. Two or three months ago I presented this phase of the question to the Farmers' Club, and several gentlemen present advocated additional legislation to meet the case, but it was finally concluded that efforts to amend the present law might result in weakening the statute. Besides, it is extremely distasteful to medical men at least, to go before a committee and there be met by those who would attempt to impeach efforts for the public welfare by questioning disinterested motives. Therefore, this plan does not seem to be advisable.

"The other alternative is to create a public demand for a direct supply, and this is the object of the resolution, although it purposely limits action on the part of members of this Society to the exercise of such influence as they may see fit, leaving to each and all absolute freedom in selecting their source of supply.

"The coöperation of all honest dealers may be anticipated in this movement, as it will obviate the necessity of keeping in stock a large number of small cans, with the attendant care, and the maintenance of ice-chests which adds materially to the cost of handling. It would render inspection less laborious, as the samples could be taken from comparatively large quantities."

Dr. Barnes then offered the following resolution:

Whereas, A large proportion of the milk daily supplied to the City of Boston for human consumption by its inhabitants is from six hours to twenty-four hours old when it reaches the city, and

Whereas, Owing to the inconvenient time of arrival of the milk-trains, and to the system of delivery in small service-cans, the milk so brought is still further detained twenty-four hours in the barns and sheds of the milkmen, and

Whereas, We are of the opinion that during this period, not only are opportunities afforded to the dishonest dealer to tamper with the milk, but that it is often exposed to unsanitary influences, the cost of handling is increased, and the additional age thus given to it is detrimental to the public health, therefore,

Resolved, That we, the members of the Suffolk District Medical Society, Section for Clinical Medicine, Pathology and Hygiene, will exercise every proper influence to secure for ourselves and the community in which we live, milk which has not been subjected to this unnecessary delay.

Voted, That the Secretary of this meeting be instructed to endeavor to secure the publication of the above resolution in the daily papers of the City of Boston, over the signature of the Chairman of this meeting, and that of the Secretary.

The Chairman then declared the resolution to be before the Section, and invited Prof. James M. Babcock, the Inspector of Milk, to open the discussion.

Professor Babcock spoke as follows: Mr. President: I had no idea when I was invited by Dr. Barnes to come here that I should be called upon to speak, and I feel all the more diffident, now that I have observed that such matters have been brought before the Society in the form of papers prepared with a considerable degree of study and care. It will be evident from what few remarks I make that I have come here with no preparation whatever. I shall of course be glad to answer any questions in regard to this matter, that any gentleman may see fit to put to me.

It is as Dr. Barnes has said: a very large part of the milk which is supplied to the citizens of Boston is twenty-four hours in the hands of the milkman between the time when it arrives in Boston and the time the milk is supplied to the consumer, and is in many cases thirty-six hours old from the time of milking. On the Boston & Albany Railroad there is a train, of some six or seven cars, which gets in the city at half-past one, A.M., there are also some two or three cars which arrive at about eleven o'clock. On the other roads, the Boston & Maine, Eastern, Lowell and Fitchburg, etc., the milk is received at about ten or eleven o'clock in the day; of course the milk under that arrangement of trains cannot be delivered to the citizens of Boston till the next morning. The remedy for that would be a different arrangement of trains. The milk which is received by way of the Boston & Albany, is loaded directly on the teams in large cans and taken to grocery stores and bake shops, while the family trade is supplied by milk which was put up the day before. The milkman, after he has gone his rounds, perhaps visits the depot for the milk which has arrived on the eleven o'clock train that day, and takes it to his own stable and puts it up in small cans and then puts them into an ice-house or ice-pit and then at twelve o'clock or one o'clock in the morning, his wagon starts on its rounds to deliver this milk to his customers, so-called "fresh from the cow." There would be probably a certain amount of disinclination to enter into any arrangement which would make it possible to deliver milk in a fresher condition than it is at present. I ought to say, perhaps, there is a good deal of milk brought into Boston from Lexington and other outlying towns where the milkmen make their own contracts with the farmers, and the milk which is put up in the evening, is delivered to his customers the next morning. The proportion, however, is not perhaps over ten or fifteen per cent. of the milk sold in Boston.

Of course the less handling milk has, the better.

It does not seem so me that the pouring from a large can into a small one and then setting aside, is objectionable.

Of course the increased age of the milk is very objectionable: but anything which will prevent the taking of this milk into stables, some of which are certainly not in a condition to warrant investigation, will doubtless work an improvement in the quality of the milk. Something should be done to enable us in our department to visit these stables. There are in Charlestown many such stables, and the inspectors should be granted the right to enter all places where milk is stored or kept for sale in order to ascertain the manner in which these stables are kept.

DR. DURGIN was called on by the Chair, and responded as follows: I do not know that I am prepared to say anything on this subject, but I wish to call the attention of my friends here to the fact that very much can be done in the way of delivering milk earlier than it is now delivered. I am aware of the fact that much of the milk delivered in Boston is at least twenty-four hours older than it should be.

Everybody knows that the older the milk, the worse it is for use. I think that the profession is well aware of the fact that the mischief created in children during the summer season is by milk that is tampered with by means of water which is not of the best. The cream is also taken from it and water is added, which prevents the child from obtaining a proper nutrition from that which is taken. As far as resolutions are concerned, it seems to me that the profession is the one to start a movement of this kind. Certainly there is a call for such action on the part of the medical profession, and it seems to me that this is the place to do it. As far as legislation is concerned, there has been a very strong effort made at the State House to break down the existing law, which is a fairly good one. Thus far the attempt to make any inroad on the law has not been successful. In regard to the condition of the stables, I do not know that there is any law which would empower the Board of Health to enter these buildings, which are private property. The only way in which it occurs to me that we might reach them, is through a general law which would enable the Board of Health to investigate such places on the ground that they constitute a nuisance, and are a source of danger to the public health.

There is no doubt that the public has great need of instruction in regard to matters connected with its milk-supply, and these resolutions which have been proposed may have a very excellent effect in educating the public in some of these things which they ought to know. I have had occasion to say elsewhere that probably three-fourths of the people of the City of Boston firmly believe that whatever may be true of other people's milkmen, in the way of fraud and deception, *their* milkman is honest and truthful, and that somewhere in the radius of ten or fifteen miles of the city he keeps cows, and milks them and brings the products of his dairy to their doors. There are very few people who know the manner in which the milk business is carried on. The great majority of the milk-consumers of Boston suppose that the froth which they find on the top of their cans in the morning is the same kind of froth which they may have seen on the top of the milk while being drawn from the cow, in some cool farmyard in the country. They know that the froth rises to a considerable degree above the milk, and they are pleased to see the same appearance on the top of the milk can. They do not know that this froth is manufactured from a mixture of the white of egg, and a little cream, and is carefully placed on the top of the milk after it is put in the can. This compound is called by the milkmen "spudge," or in the more common vernacular of the milk trade, it goes by the name of "flub dub."

The public is to a certain extent to be blamed in regard to the quality of the milk. The milkmen justly complain that in certain sections of the city the people are not willing to pay what good milk is worth. I am obliged to confess that I have a feeling of suppressed sympathy for certain milkmen; I would like to believe that it is the force of circumstances which compels some of them to water their milk, and take the cream off, in order to get a living. There are certain sections of the city where the people are unwilling to pay five cents a quart for good milk, to have the milk brought to them.

DR. B. F. DAVENPORT said: I have had within a week or ten days an illustration of the degree of interest and information which the average milk-dealer has in the production or care of milk. I recently saw a milk dealer who had just arrived from Chicago. On the journey to Boston he rose early one morning, and looking out of the window of the sleeping-car, he saw a farmer milking his cow. The milk-dealer stated that it was the first time that he had ever seen a cow milked in his life.

The system of milk-supply in Boston is different from that of any other large city in the country. There is no other city which is supplied exactly like ours. The larger part of the supply is brought in by railroads and is put up for family use in large cans. In New York it is carried around in large cans and is ladled out into pitchers, etc., as it is desired by the consumers.

In other cities, Philadelphia, Baltimore, Chicago, they have very little railroad milk, but the supply is mostly from dairies in the suburbs of the city. There is another point in which the consumers are at fault for the quality of the milk. As the milk is supplied the cream has risen to the top of the can, and ordinarily the consumer will pour off the top of the can without mixing, and the lower portion then acquires a bluish appearance. The consumer thinks that this is not as it should be, and at once concludes that the milkman is not delivering honest milk. He thinks that the milk should be of the same appearance at the bottom of the can as at the top. I have known a case in which a pedler said that he was compelled to adulterate the milk in such a way as to make the bottom of the can appear as white as the top, in order to sell the milk.

DR. BARNES stated that he had been repeatedly told by the contractor on the Boston and Albany road that he would much prefer to have the whole supply of milk come into Boston so as to be delivered in the morning.

The Chairman then put the resolution, and it was unanimously carried. The Secretary was directed to secure the publication of the preamble and resolution in the daily papers.

The Section adjourned at ten o'clock.

— One hundred and sixty-five people died in Chicago, July 15, 16, and 17, from the effects of heat.

THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting, June 2, 1887.

INTUBATION OF THE LARYNX.

Dr. F. Hubel read a paper based on a study of forty-seven cases, the results of which had convinced him, he said, that at the present time tracheotomy should only be resorted to in cases in which intubation had failed to afford the needed relief; and he was of the opinion that a case of this kind would seldom be met with. Having stated that the dyspnœa was as effectively relieved by intubation as by tracheotomy, he spoke of the advantages of the former, and also referred to the origin of the procedure as proposed and practised by Bouchut, in 1858. Then, after referring to some practical points derived from his personal experience, he said that intubation had now passed through the experimental stage, and that its utility had been fully established by numerous operators in different parts of the country. Notwithstanding the gratifying results obtained, however, it had as yet received very little favor, or even attention in Europe.

Of his forty-seven cases, Dr. Huber said that twenty-nine, with eleven recoveries, were in children under three years of age, and eighteen cases, with nine recoveries, in children of three years or over. Of the children under three years, one was nine and one-half months old, one, ten and one-half months, two, eleven months, one, one year, two, two years, two, two and one-half years, and two, two years and eight months old. Of all the children that he had been called upon to treat who were suffering from laryngeal stenosis he had found it necessary to resort to intubation in only one out of every three or four cases; and he thought that it should not be practised until dangerous symptoms had supervened. He used it, in fact, in exactly the same class of cases in which one year ago, he would have performed tracheotomy. Having spoken of the diagnosis of croup and the indications for surgical interference, he referred to the importance of making a careful examination of the neck and chest, and said that he had known cases of retro-pharyngeal abscess and empyema to be mistaken for laryngeal stenosis. As confirmatory of the diagnosis of the latter, relative absence of fever, in uncomplicated cases, was of much value; and aphonia, with difficulty of both inspiration and expiration, were positively indicative of croup.

He next spoke of the various accidents and mishaps which had been met with in connection with intubation, and the objections raised against the procedure. He referred first to the gag, and said that O'Dwyer's gag was liable to be displaced by the struggles of the patient, but that this was not the case with the one devised by Dr. Denhart, which he exhibited. The thread attached to the tube should be eighteen or twenty inches in length, and if not withdrawn at once, should be passed over the ear and secured. In order to avoid accidents in introducing the tube the efforts to place it in position should be short and repeated, rather than kept up uninterruptedly for any length of time. One of the most serious accidents that could occur, was the pushing of dislodged membranes before the tube, and in a case of this kind, Dr. E. D. Fergusen, of Troy, was obliged to resort to tracheotomy.

Several deaths had been reported from this accident, and Dr. Waxham had recently devised a long tracheal forceps for the purpose of removing the membranes when it occurred. In a case of his own in which it happened he gave the child brandy, with the effect of exciting a fit of coughing which expelled both the tube and the membranes. If at any time after the tube had been introduced, noisy breathing should set in, it was an indication for the temporary removal of the tube. The tube had been known to be coughed up and then swallowed. Instances had also been reported in which the tube had slipped through the larynx into the trachea; but this was when the earlier pattern of tube, with small head, was employed. The tube did not act as a foreign body when in the larynx, giving rise to choking sensations and coughing; but if it remained in position for a considerable length of time it might possibly produce slight ulceration. This, however, did no harm.

In speaking of accidents in connection with the withdrawal of the tube, he said that instances had been reported in which it was pushed down into the trachea, but this had occurred only when the older pattern of tube, with small head, was employed. As to the time for removing the tube, in some cases this might be done as early as the fourth or fifth day, although it was often desirable to allow it to remain longer. As a rule, however, it could be dispensed with at a much earlier date than the tracheotomy tube. If the respiration continued free, the tube should generally be allowed to remain until the fifth or sixth day; but if the respiration became noisy, it should be promptly removed, and afterwards re-introduced, if this should prove necessary. When there were diphtheritic patches discernible in the nose or pharynx it was advisable, as a rule, to leave the tube in position until they had disappeared.

In intubation, as in tracheotomy, the prognosis was more favorable when there was simply local obstruction in the larynx than in cases where there was marked constitutional infection from the diphtheritic poison. No age offered a contra-indication to intubation. No positive prognosis should ever be made, however, until forty-eight hours had elapsed from the time of insertion of the tube.

As regards medicinal treatment, Dr. Huber said that it was his practice to keep up the use of bichloride of mercury throughout the course of the disease, whether intubation were resorted to or not. He employed it, in accordance with the views of Dr. Jacobi, in larger doses than those usually recommended; giving from one-sixth to one-half a grain, and in severe cases as much as one grain, in divided doses, during the twenty-four hours. When there was much difficulty in swallowing, he gave it in the form of tablet triturates, of one-fortieth of a grain each, mixed with sugar and placed dry upon the tongue. If there were extensive diphtheritic membranes in the fauces he also employed tincture of iron and chlorate of potassium. In threatened heart-failure he resorted to brandy, caffeine, etc. If the temperature was very high, antipyretics were employed either by the mouth or rectum. Finally, he used the steam atomizer for producing a moist vapor.

Intubation, he went on to say, possessed every advantage possessed by tracheotomy. It could also save many cases in which tracheotomy would not be permitted, as well as many which would die if the latter were performed, especially in children under three

years of age. Out of twelve cases in which Dr. Huber had resorted to tracheotomy, ten had proved fatal. He had also seen many cases in the hands of others in which the results were no more favorable; so that he felt warranted in assigning to intubation a much higher position.

DR. J. O'DWYER read a paper on

FEEDING AFTER INTUBATION OF THE LARYNX,

in connection with which he exhibited various tubes modified to overcome difficulty in feeding. He also showed specimens with the tube in position, and a section of the cricoid cartilage filled up with membranes, except where the tube had left an opening, the form of which was just the shape of the latter.

The difficulty of swallowing, he said, was recognized by all as the most important objection to intubation, and he had long been trying various modifications in the shape of the tube in order to diminish this as far as possible. At first he tried making the heads of the tubes quite small; but, while this rendered it possible for them to slip down into the trachea, it did not make deglutition any easier. The next modification that he made was to increase the size of the head to some extent, and also gave the tube a greater curve, in order to avoid ulceration at the base of the epiglottis. The third modification was to make the posterior surface of the tube longer than the anterior surface, so as to allow the epiglottis to pass over it more completely. Next, he increased the size of the head still further, so that it should fill the cavity of the larynx and prevent fluid and other foreign substances from entering around it. The fifth modification was to make the upper surface of the tube concave, so that it would adapt itself more perfectly to the conformation of the parts; and this modification had the effect of rendering it very easy to remove the tube. With the pattern commonly used, extraction had always proved the most difficult part of the procedure.

The last modification which he had adopted was to give to the upper portion of the tube a double backward curve, in the hope of increasing the facility of swallowing, and this, at all events, had the effect of preventing ulceration of the anterior wall of the trachea, which hitherto had sometimes been quite extensive. Any one, however, who practised intubation at all largely would find it advisable to employ a variety of tubes according to the circumstances of particular cases; and he had lately devised a large, short tube for temporary use in certain instances. The string could be left attached to it, and he thought it probable, on account of the large calibre of the tube, that membranes might sometimes be coughed up through it.

Notwithstanding all his modifications, Dr. O'Dwyer said that he still found about the same difficulty in swallowing present. Solids and semi-solids, as a rule, were taken much better than liquids. Food would not enter the tube if the epiglottis was normal. In a number of instances he had removed the tube in order to give nourishment; but the results were no better than when it was in position. In some cases, particularly when nephritis was present, there was nausea and vomiting, as well as anorexia. Sometimes, however, swallowing was more readily accomplished than before the insertion of the tube, on account of the relief which it afforded to the urgent dyspnœa. As a rule, the longer the tube remained in position, the easier it became to swallow. When the patient was old enough to understand, he always gave instructions that drinking should be done rapidly and that as large a quantity of fluid as possible should be taken at one time. Then, by coughing, the tube could be freed from any of it that might perchance have entered. Sometimes he employed rectal alimentation, but he very seldom had to resort to the stomach-tube.

Passing on to speak of pneumonia, Dr. O'Dwyer said that in his opinion this might arise from (1) the presence of secretions in the lower air-passages; (2) an excess of blood drawn out of the lungs; (3) atelectasis (in the same cases in which there was an extension of the membranes); (4) the presence of a tube either in the larynx or the trachea. He did not believe that food was a cause of pneumonia, as there was no evidence that food had ever been found in the minute bronchi. He had known a patient (an adult female) to wear a tube in the larynx for over ten months, who not only did not have pneumonia, but who in the meanwhile recovered from bronchitis, which she had at the time the tube was put in.

He had lately had constructed two hard rubber tubes designed for all kinds of acute laryngeal stenosis in adults; the smaller one for women and young males, and the larger for full-sized males. The principal difference between these and the metallic tubes was in regard to their weight and the size of the calibre. While a rubber tube weighed only one hundred grains, an adult metallic tube weighed an ounce and three-quarters; and the rubber tube was fully double the calibre of the metallic. As regards the comparative comfort of the two kinds of tubes, one patient found the metallic tube the most satisfactory, while another, who was a syphilitic and had a very sensitive larynx, preferred the rubber. In the latter case the metallic tube produced ulceration, which was not the case with the rubber one, while greater freedom of movement and facility of expectoration were also secured with the latter.

DR. DILLON BROWN read a paper on

STATISTICAL RECORDS OF INTUBATION.

As far as he had been able to ascertain, there had been reported altogether 760 cases of intubation, by 54 different operators; and of these he had tabulated 502 cases. 211, or 27.07 per cent., had recovered. The average age of the children who died was three years and two months, and of those who recovered, four years and one month. In those who recovered, intubation was resorted to at an average period of two days and nine hours after symptoms of laryngeal stenosis had first appeared, and in those who died, at an average period of one day and nineteen hours. In the fatal cases the average time between intubation and death was two days and eight hours; and in those which recovered the average time during which the tube was worn was five days and three and one-half hours. The causes of death he found were given in 339 of the fatal cases. Those who had performed intubation in the largest number of cases were, O'Dwyer, 78 cases; Waxham, 106 cases; Dillon Brown, 84 cases; and Huber, 47 cases.

Unavoidable accidents, Dr. Brown went on to say, were rare, and with the exception of the one of pushing the membranes before the tube, were not important. From the use of too much force false passages had been made in two instances. The slipping of the tube down into the trachea, which had been reported

in several cases, could never occur if a tube of proper size was employed. In two cases the tube had passed into the œsophagus, instead of the larynx; but there was no reason why this mistake should be made if sufficient care were taken. In order to avoid as far as possible the danger of pushing membranes before the tube, he advised that the latter should be pressed well down and held firmly in position with the finger until the obturator had been removed. Coughing up of the tube was a source of danger, but this could, as a rule, be avoided if a tube with a sufficient retaining swell was used. If there were paralysis of the muscles, however, this accident was liable to occur, notwithstanding an ample retaining swell. As to the causes of death after intubation, the extension of the membranes to the bronchi was the most frequent; and he believed that pneumonia, when present, was secondary in character.

Dr. W. P. Northrup read a paper on the

PATHOLOGICAL ANATOMY OF THE RESPIRATORY TRACT AFTER DEATH FROM LARYNGEAL DIPHTHERIA AND INTUBATION.

In a paper on this subject which he read before the Academy in December last, Dr. Northrup said that he had reported eighty-seven fatal cases. Since that time twenty additional fatal cases had occurred at the Foundling Asylum, so that he had now altogether one hundred and seven cases on record. The cause for this large number during so short a period as four months was the occurrence of diphtheria in connection with a fatal epidemic of measles and scarlet fever. The severity of the outbreak was shown by the fact that all the fatal cases had pneumonia, and thirteen of them nephritis. In his former paper he had stated that he had never met with ulcers of the trachea; but in the twenty cases now reported for the first time there were deep ulcers, laying bare the rings of the trachea, in no less than five instances, and he presented the specimens from these cases. He had not as yet met with ulceration of any consequence caused by the head of the tube: — nothing more, in fact, than necrosis of the epithelium. He had never seen any evidence of aspiration pneumonia, as it was called, due to the entrance of milk or other fluid into the finer bronchi.

Dr. Irvin H. Hance read the report of a

CASE OF LARYNGOTOMY AFTER INTUBATION.

It was met with at the Nursery and Child's Hospital, and the patient, who was twenty months old, and suffering from scarlet fever and diphtheria, twice coughed up the tube. After it had been introduced a third time the tube became obstructed, and had to be removed. At this time the child was so exhausted that artificial respiration had to be resorted to for a while. The tube was then inserted for the fourth time, and again it filled up with mucus, and had to be withdrawn. After being introduced a fifth time it again became occluded, and was finally coughed up. The stenosis still continuing, laryngotomy was performed, at the cricothyroid membrane, and complete relief from the dyspnœa was at once afforded. The child died the next day, however, of the scarlatinous disease.

In this case, he said, the tubes were thoroughly tried, and were found to be utterly valueless. Their failure, he thought, was probably due either to the large quantity of tenacious mucus present or to the dislodgment of diphtheretic membrane. It was a question whether tracheotomy should not have been resorted to earlier, before the child had become so exhausted by the existing condition and the repeated introduction of the tube.

In conclusion, Dr. Hance alluded to other cases in which laryngotomy or tracheotomy had to be performed after a trial of intubation. Nine such cases, including his own, had been reported, and among these there had been three deaths and five recoveries, while in one instance the child was still under treatment at the time the report was made. The operation had been performed or advised under the following circumstances: (1) Great irritability of the larynx. (2) When membranes are pushed down before the tube. (3) When the tube became plugged up with dislodged membrane. (4) When there was a return of the dyspnœa with absence of the tube from the larynx. (5) When the tube became wedged in the larynx.

As to laryngeal spasm, he had found that this could usually be controlled with belladonna, nitre and chloral. Practically, the only condition calling for tracheotomy was the obstruction of the tube by membranes, and this was a very rare occurrence. The attempt had been made to remove the membranes with forceps. Finally, he said that he would advise resorting to tracheotomy only after intubation had failed.

In reply to a question of the President, Dr. A. Jacobi, Dr. O'Dwyer stated that in his later cases he had performed tracheotomy after intubation in only one instance. His own experience had been so unfavorable in this operation that he was not disposed to hope for much from it. As to removing membranes with the forceps, the subglottic division of the tube was of such narrow calibre that it was practically impossible to use this instrument, and he had therefore devised a flexible apparatus for this purpose somewhat on the principle of the umbrella probang. He knew of no wedging in the larynx that could occur except such as was sometimes met with when a tube with a very small head was used. Like Dr. Northrup, he had never seen any evidence of the so-called aspiration pneumonia arising from the entrance of food into the bronchi. The secretions, he believed, were the source of the pneumonia that was found after intubation; there being aspiration of these into the finer bronchial tubes. It was due primarily, however, to the presence of the tube, because the latter impaired the patient's power of expulsion; the secretions under these circumstances not being gotton rid of with the same facility as through the normal larynx.

The President said that he was much pleased to hear both Drs. O'Dwyer and Northrup say that they had never seen any reason to believe that pneumonia originated from the presence of food. He would like to inquire of Dr. Northrup whether lobar pneumonia was of frequent occurrence, and if so, whether this was found especially in cases of sepsis.

Dr. Northrup replied that in the 87 cases previously reported by him, 27 were believed to have died from extension of the diphtheritic membrane. In a large proportion of these there were found membranes extending from the tip of the nose to the finest bronchi of the lungs. Bronchial diphtheria, with œdema was a marked feature at the autopsies. Pneumonia, when it did occur, was of late origination. It

affected both lungs, and was lobular, not lobar, in character. In not more than one-fourth of the cases could it be said to have been the cause of death.

DR. CAILLE said that it was too early as yet to speak a final word as to the merits of intubation. Many of the cases published had been reported in such a way as to render them of no practical value. In comparing this procedure with tracheotomy in his own experience, he found that he had performed tracheotomy in 21 cases, with five recoveries, and intubation in 16 cases, with six recoveries. In his cases of intubation diphtheritic membranes were observed on the nares or pharynx in nine instances. Most of the cases were seen in consultation, and, as a rule, intubation was undertaken rather late. He believed that all the patients would have died without surgical interference, and that one who died would have recovered if intubation could have been practised earlier. The cause of death after intubation he had found to be catarrhal pneumonia in a majority of his fatal cases. It was a fact that most of the children who died had taken liquids, and of late he had allowed only solids, cut up fine with rice to allay thirst. Since he had adopted this course his results had been better.

In conclusion, he said that intubation was to be preferred to tracheotomy in the majority of instances. When the pharynx and nares are affected, intubation is preferable, as a rule, to tracheotomy, especially when the after-treatment of the latter cannot be carried out satisfactorily. Tracheotomy is preferable to intubation in some cases, hopeless without operation, provided the surgeon can operate and carry out the after-treatment under the most favorable conditions. These statements apply to intubation with the present style of tubes.

AMERICAN OTOLOGICAL SOCIETY.

TWENTIETH ANNUAL MEETING.

THE twentieth annual meeting of the society was held on Tuesday, July 19, 1887, at the Pequot House, New London, Conn.

MORNING SESSION.

The society was called to order at 10.30 A.M., by the President, Dr. J. S. PROUT, of Brooklyn.

In the absence of the Secretary, Dr. E. E. Holt, of Portland, was elected secretary *pro tem.* Resolutions expressing regret at the absence of the secretary, Dr. J. J. B. Vermyne, who was prevented by ill-health from being present, were adopted, and the secretary of the meeting was directed to forward a copy to Dr. Vermyne.

Dr. John Green, Dr. J. A. Andrews and Dr. J. A. Lippincott were appointed as a nominating and business committee.

The report of the committee of conference with reference to the formation of a Congress of American Physicians and Surgeons, was adopted, and the following resolution was also adopted.

Resolved, That the Society expresses its acquiescence in the general plan for the formation of a congress of special societies as set forth in the printed minutes of the Washington meeting of September 24th.

The naming of the representative and alternate to the executive committee of the congress was left to the nominating committee.

THE EXAMINATION OF THE POWER OF HEARING AND HOW TO RECORD ITS RESULTS,

was the title of a paper read by DR. H. KNAPP, of New York.

This was the report of a committee consisting of Drs. H. Knapp, J. S. Prout and D. B. St. John Roosa. The tests for hearing described were the watch, the voice, Politzer's acumetre, and the tuning-fork. The watch is one of the best means of testing the hearing. A low ticking watch is of service in indicating the lowest degree of hardness of hearing in those cases where the patient has not become aware of the defect. This is, however, not sufficient to measure the higher degrees of deafness. In these cases a loud ticking watch or Politzer's acumetre must supply its place. Each of these instruments must be tested by the physician in his office on a number of normal ears in order that he may obtain a standard. It is a fact that in persons over fifty-five years of age, a low ticking watch may not be heard when placed over the temporal or mastoid bone if the ear is closed, but will be heard if the ear is open.

With reference to the voice, as tests for hearing, the whispered voice, the voice of ordinary conversation and the loud voice are used. Each observer must test his own voice by the acuteness of hearing of normal persons between the ages of twenty and forty-eight years of age. The state of the room as to noise and quiet should always be considered. The tuning-fork over all parts of the skull is heard louder and longer when the ear is closed than when it is open. All tuning-forks are heard longer by air conduction than by bone conduction. Low tuning-forks are heard louder but not longer by bone conduction than by air conduction. Departure from these conditions indicate disease.

DISCUSSION.

DR. SAMUEL SEXTON, of New York. It seems to me that sufficient importance has not been given to the varying conditions of the patients themselves. I find that in cases of chronic catarrhal inflammation of the middle ear, and also in acute forms of inflammation, that there are constantly varying changes in the tension of the drum and in the transmitting mechanism. In these cases the acuteness of hearing changes from hour to hour or day to day. I have noticed that in the morning when the perceptive faculties are active, a patient will hear better than he will later in the day. It is also well known that the vapor tension of the air as well as the temperature has something to do with the transmission of sound. The hearing is better in cold weather than in hot. I think that we shall always find difficulty in obtaining accurate tests for the more interesting cases which come under observation.

DR. D. B. ST. JOHN ROOSA, of New York. I am not inclined to lay such stress as has been done on the variations in hearing from hour to hour, in cases of chronic inflammation of the middle ear. These variations do occur in cases of disease of the middle ear, but I think that they are more marked in disease of the internal ear. In cases of a nervous deafness the condition of nervous exhaustion has much to do with the capacity for hearing.

DR. SAMUEL THEOBALD, of Baltimore. As bearing upon the use of the tuning-fork, I could mention an observation which I have made in a number of in-

stances and which I have been unable to explain. I have noted in certain cases that when I have placed the tuning-fork on the vertex, the patient will hear it louder in one ear, say the right. Then striking the fork again and placing it upon the forehead, it will be heard best in the left ear. This has given me less confidence in the tuning-fork as a differential test between middle ear and labyrinthian troubles.

Dr. H. Knapp, of New York. For practical purposes we must test the hearing as accurately and with as little loss of time as possible. In certain cases of chronic catarrh you get no change in the hearing power by any test. In these cases I think that nothing is to be looked for from treatment. Where, however, by changes of weather or changes in the patient's condition, there is a change in the healing power, we know that there is something to improve. We get not only an estimation of the condition, but we also get a foundation for prognosis and an indication for treatment.

THE SUCCESSFUL REMOVAL OF AN EXOSTOSIS FROM THE EXTERNAL AUDITORY CANAL BY A NEW METHOD,

by Charles H. Burnett, M.D., of Philadelphia.

The patient was a physician, about thirty years of age, in whose right ear the exostosis had been growing for fifteen years, and within the past year it had entirely occluded the meatus and caused deafness. The growth was about one centimetre in diameter, pedículated and attached to the anterior wall of the meatus just within the outer edge of the tympanic bone. Its outer surface was covered with thick and rather insensible skin. After a hypodermic injection into the concha, of fifteen minims of a five per cent. solution of hydrochlorate of cocaine, the outer surface of the exostosis was seized by specially devised bone forceps and a piece of the bone tumor cut off. About one-half of the growth was thus removed in successive pieces. As the blades of the forceps could not enter further into the meatus and get hold of the remnant of the exostosis, a small chisel a few millimetres in width was placed against the attachment and a blow from a hammer on the chisel knocked off the remainder of the growth, en masse. The operation caused very little pain or bleeding. The fundus of the canal and the membrana tympani were covered with a glove finger cast of epithelium. This was removed and the hearing found to be normal. The ear was dressed with a little iodoform and stopped with cotton. There was no reaction and the cut surface of bone on the wall of the meatus at the point of attachment of the exostosis was entirely covered with skin in two or three days. Usually drills impelled by the dental lathe have been used to open the lumen of the canal occluded by exostosis. The novelty in this case consisted in the use of bone forceps devised by the author to remove the growth as far as possible, and then the use of hammer and chisel to complete the opening.

DISCUSSION.

Dr. H. Knapp, of New York. I have taken considerable interest in the removal of exostoses from various canals. To attack them at the apex, with the chisel where they consist of ivory bone is most difficult. The most efficient way, in my experience, is to attack them at the base. Here the bone may be much softer. In the after-treatment cleanliness and antiseptic precautions are of the utmost importance. I think that this is a safe and is the most efficient method of removing these ivory tumors with large bases.

Dr. J. A. Andrews, of New York. I would endorse what Dr. Knapp has stated. Where these osteomata are situated in the orbit, much serious injury may be inflicted upon the brain by the use of the chisel. It would be much easier to fracture the plate of bone lying against the brain in osteoma of the frontal sinus, by attacking the tumor itself than by attacking the bony surroundings of the growth.

THE DIFFERENTIAL DIAGNOSIS BETWEEN AFFECTIONS OF THE MIDDLE EAR AND THOSE OF THE LABYRINTH,

by D. B. St. John Roosa, M.D., of New York.

There has been some difference of opinion as to our ability to differentiate between affections of the middle ear and those of the labyrinth. Many cases usually classed under affections of the tympanum, should be placed among diseases of the cochlea or of the acoustic nerve. The records of seven recent cases were given in detail. These cases were nearly all in the middle period of life, when its cares and troubles are most pronounced. Such patients often exhibit symptoms of nervous exhaustion. These cases may be benefited by the administration of strychnia, arsenic and quinine. Proper hygiene should be employed. The universal use of the watch as a test of hearing occasionally leads to false conclusions on the part of the general practitioner, who discovers loss of hearing by testing with the watch alone. When used alone, I regard the watch as insufficient. When both the watch and the voice are heard badly there is cause for anxiety. Many persons have lesions which cause them to hear the watch and certain other tones badly who can hear the voice well. In the opinion of the author those persons who hear conversation better than the watch, who hear better in a quiet room than where there is a noise, and who hear the tuning-fork better through the air than through the bone, suffer from an affection of the labyrinth or nerve, and not from disease of the tympanum, although the latter may be engrafted upon the previous affection. The general adoption of this view would save a good deal of local treatment of the naso-pharynx and tympanum and greatly simplify and improve our therapeutics.

Dr. Emil Greuning, of New York. Were the cases described by Dr. Roosa benefited by general treatment?

Dr. Roosa, of New York. As far as the aural condition is concerned, I regard these cases as incurable. I think that we can assure these patients that if the general health be looked after carefully that they will never hear so badly but that they can hear in a quiet place. This has a good moral effect. It makes the patient happier, and enables us to dispense with much useless treatment.

Dr. E. E. Holt, of Portland. For several years I have performed experiments with the tuning-fork, but I have not been able to reach the same conclusions as those presented by Dr. Roosa. You may find quite a degree of deafness and still the tuning-fork will be heard longer by air conduction than by the bone. I have seen many cases where bone conduction would be longer than air conduction, and where by treatment the air conduction would become longer. It is difficult to test the hearing properly with the watch

unless it is made with a stop. In my own case I hear the watch very badly. I hear the tuning-fork by air-conduction three or four times longer than by bone conduction. In an ordinary quiet room I can hear all that is said, but in the cars I can hear better than a person with normal ears.

DR. ROOSA, of New York. The case of Dr. Holt would not agree with my experience, which is that of a person who hears well in a quiet room, and who hears the watch badly, always hears worse in the cars than he does in a quiet room.

REMARKS UPON A CASE OF CEREBRAL ABSCESS,

by DR. D. B. ST. JOHN ROOSA, of New York.

The patient, a boy of eleven years of age, came under observation May 4, 1887, with a painful swelling over the right ear. It was said that the boy had had some trouble with the ear two years before, but that there had been no discharge. For three months he had tinnitus aurium and vertigo. One week before he was seen he had pain in the ear, then this swelling appeared. Bone conduction with the tuning-fork was better than aerial conduction. The hearing power of the left ear was normal. Immediately above and in front of the auricle there was a swelling about the size of the walnut. This presented fluctuation. There was a history that previous to admission to the hospital the treatment had consisted in the use of injections and the insufflation of powders. The auditory canal was filled with a white substance which was supposed to be the powder that had been employed. The day after admission the patient was etherized and the abscess opened with the removal of half an ounce of laudable pus. No fistula was discovered. The patient did well for nine days. Nausea and vomiting then set in and the temperature went up to 104°. The patient sank into a condition of coma and died on the tenth day after admission. At the autopsy there was found a cerebral abscess one and one-half inches in diameter, situated in the tempero-sphenoidal lobe one-half inch from the surface of the brain. This was lined with thick membrane. The membrane tympani was perforated and the upper wall of the canal was necrotic. At the junction of the mastoid and squamous bones there was a spot of necrosis one-half inch in diameter. The canal and mastoid cells were filled with caseous material.

(To be continued.)

— Cetti, the Norwegian whose twelve days' fast in Berlin was made the subject of study by Professor Virchow, began on June 13th, a thirty days' fast in London, for "scientific purposes." The performance was brought to an abrupt conclusion by his detection in eating gelatine jujubes, about a half-pound of which were found on his person.

— A suit was recently tried in Brooklyn, says the *Medical Record*, which shows that it is not always safe to speak lightly of a physician. Dr. W. J. Cruikshank recovered a $1,600 verdict, in his suit for $50,000 damages, against William Gordon, the trial of which was brought in the Supreme Court. The doctor asserted that Mr. Gordon went to the mother of a child he was attending, and urged her to secure another physician without delay, as, in his opinion, Dr. Cruikshank had not the skill necessary to attend a sick dog.

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A CONTRIBUTION TO THE STUDY OF PERNICIOUS ANÆMIA.

AT the Medical Congress lately held in Wiesbaden, Professor Lichtheim of Berne, in reviewing the present status of medical knowledge respecting that puzzling and obscure affection known as pernicious anæmia, called attention to the facts published last year by Reyher, of Dorpat and Runeberg, of Berlin, in which the coincidence between the manifestations of the disease and the presence in the intestinal canal of various kinds of tænia, seemed to indicate a causal relation between the two facts.

Reyher published thirteen cases of pernicious anæmia, which he regarded as undoubtedly due to the presence of the bothriocephalus latus in the intestines, for all these cases got well after elimination of the parasite.

Runeberg, shortly afterward, published a number of facts of a similar nature. It is worthy of note that previous to these observations there was an outbreak of the same disease among the workingmen of the St. Gothard tunnel, which was occasioned by infection by the ankylostema duodenalis. Prof. Lichtheim, in directing attention to these facts, states as a result of his personal experience, that, although in the majority of cases of pernicious anæmia, followed by autopsy, which had come under his observation, he had been unable to find any tape-worms, yet in a case occurring since Reyher's publication, in which the death was clearly from pernicious anæmia, he found six tæniæ (bothriocephalus latus) in the intestine of the patient. Quite recently, moreover, another case of pernicious anæmia presented itself at his clinic, and here again he discovered in the stools of the patient ova and segments of the bothriocephalus. Since then, he has had nine more cases of the same disease; six of these patients have died, and the autopsy failed to disclose the presence of any intestinal parasites. Lichtheim very sensibly concludes from these experiences that the parasite does not play a constant or well-marked rôle in the etiology of this disease.

He anticipates the objection that the cases in Dorpat and Berlin were not cases of pernicious anæmia. It is, however, a fact that these cases, as well as those occurring in his own practice in connection with the presence of intestinal parasites, presented all the clinical symptoms of the malady. He is therefore led to believe that pernicious anæmia is a "*multiplum*"; that it is the form of anæmia which is the most grave, and may be produced by widely different causes.

Lichtheim has seen two cases of pernicious anæmia which were coincident with affections of the spinal cord. The anæmia was associated both times with degeneration of the posterior columns. He thinks it probable that in these cases the spinal degeneration was a consequence of the pernicious anæmia, rather than a cause. In both instances the diminution of red corpuscles was very marked (500,000 to the cu. mm.) Another case is still under observation, in which the coincidence of pernicious anæmia with tabes dorsalis is clearly shown. "There have been," he says, "the last few years a multitude of facts which go to show the production of spinal affections under the influence of a profound modification of the blood." He recalls to mind in this connection the relation established between syphilis and tabes, and the experiments of Tuczek with certain toxic substances; also the observations of Lépine concerning atrophic paralysis consecutive to pernicious anæmia.

With regard to the treatment of this rebellious malady by transfusions of blood, or saline solutions, Lichtheim does not speak as favorably as Ott and some other authorities. In only one case was improvement noted after the use of intravenous saline injections.

Prof. Jurgensen, in commenting on the above paper, referred to a case of his own: a young man of robust constitution, who, all at once, contracted grave pernicious anæmia. He presented all the symptoms of the disease, and in a very pronounced degree. Temperature from 35° C. to 36° C., for several weeks; pulse only 50 per minute; rapid emaciation; extreme diminution of red-blood globules; dilatation of the heart, etc., Jurgensen thought of a possible infection by the ankylostoma. All other kinds of treatment having failed, he gave twelve grains of the extract of male fern. This dose produced symptoms of intoxication; no segments of tænia were expelled; but, on the other hand, an enormous quantity of *bacterium termo* was found in the stools. The patient immediately recovered his appetite and strength, and two months after was able to return to his home and usual occupation.

Prof. Litten, of Berlin, reported thirteen cases of pernicious anæmia occurring in his hospital service, and eventually proving fatal. The autopsy of these patients gave negative results as far as the presence of any intestinal parasites was concerned. He, therefore, agrees with Lichtheim and Jurgensen that there is no constant etiological connection between pernicious anæmia and the presence of tæniæ in the intestines.

THE TREATMENT OF BURNS.

The treatment of burns of the first and second degrees, when not of too large extent, is generally a matter of no great difficulty, such injuries healing readily by rest and the most simple applications. Burns of the third degree, even when not implicating a large surface of the body are very slow to heal, and cause great disturbance of the functions of the skin and of the entire system.

Prof. Mosetig writes in the *Wiener Med. Press*, Nos. 2 and 3, 1887 (and here we are indebted to the June number of the *Journal of Cutaneous and Genito-Urinary Diseases*), that he has treated forty-eight cases of severe burns with iodoform, and highly praises this mode of treatment. The action of iodoform is twofold; it is both analgetic and antiseptic. In Mosetig's hospital, patients treated by iodoform, lie quietly in bed, free from pain, they recover more quickly, with less loss of strength, and have smoother scars than when otherwise treated. If life cannot be saved in any given case, at least euthanasia is secured. Although the danger to life from oligochythæmia and nerve shock is not lessened by iodoform, it does lessen the danger of sepsis. In employing iodoform Mosetig so employs it that only a small amount is used. He either does not apply the powder at all as such, or he dusts it lightly over those parts that have been deeply burned, and over which the skin is in a parchment-like condition. He advises iodoform gauze compresses, not the dry preparations which are found already made in the shops, holding much loose iodoform powder, but the kind which he himself first recommended, and which are prepared by impregnating bandage gauze which has been cleansed and freed from fatty matter, with an iodoform solution in ether.

Before being applied, any blisters or bullæ must be opened, and their walls cut away and all foreign substances cleansed by absorbent cotton wet in a one-half per cent. solution of salt. Several thicknesses of the iodoform gauze are then cut to fit the burned part, and applied dry, so as evenly and entirely to cover in the region. Over this is to be spread an equally large sheet of gutta percha paper; care being taken to avoid wrinkles; and finally over all a thin sheet of absorbent cotton encircling the whole region of the body, and the whole secured by turns of a roller bandage.

This is designed to be a permanent dressing, and is to be kept on as long as cleanliness permits, and the temperature does not furnish an indication for its removal.

Simple wetting of the dressing is not an indication for changing it, but should the outer bandage become offensive, it should be changed without moving the others. The iodoform gauze and gutta percha sheet should not be removed until the end of the second week.

Should fever make its appearance, and point to septic trouble as a cause, the probability is that demarcation has taken place, and the burn-slough is

coming away, and there is retention of the secretion of the wound. The retention of pus must be sought for, and the slough removed with forceps and fingers; and fresh dressing applied as before.

The gutta percha dressing is said to be very necessary, and should never be omitted, for should the gauze dry and stiffen upon the burn it can only act injuriously.

By means of this permanent iodoform dressing, the contact of air and infection is prevented; and healing takes place in burns of the second degree under the first bandage. In burns of the third degree, the slough is thrown off with slightly marked secretions, but when the latter is not the case, healing takes place by granulation in relatively shorter time, and the scars are flatter and smoother than those resulting from the healing of non-aseptic wounds.

In burns of the face, Mosetig recommends the use of an iodoform salve (1 to 20), and over it the application of a gutta percha mask.

MEDICAL NOTES.

— Passed Assistant Surgeon John Guitéras, United States Marine Hospital Service, reports under date of July 21, total number of cases of yellow fever at Key West to date, 135; deaths, 35. A majority of the new cases are native children. One death occurred from yellow fever on the 15th inst., at Egmont Key, Florida, (refuge station.)

— The *Lancet* says: "We make no secret of our deep dissatisfaction, extensively shared by the profession, with the dispensation of Jubilee honors. Apart from the reasonable expectations of our own profession, the dispensation is exceedingly disappointing and unworthy of the occasion." Professor Gairdner, of Glasgow, has declined the knighthood tendered him.

— Dr. John Vansant of the United States Marine Hospital at St. Louis, has succeeded in taking a successful photographic negatives by means of the light emitted from twelve fire-flies. The insects were placed in a three ounce bottle, having a piece of fine white bobinet stitched over its mouth. The average duration of the flash of each insect is half a second, and the luminous area on the abdomen is about one-eighth of an inch square. The time of exposure was that of fifty flashes, as counted by the operator, who claims to have the first picture ever produced by the light emitted from a living human organism.

— The wife of an Illinois farmer had six toes on each foot and six fingers on each hand. The farmer became incensed at his wife when his children were born and found to be similarly equipped with toes and fingers. Recently the birth of the third child occurred, with the same peculiarities. In a fit of anger the husband struck the poor woman over the head with a hammer, and she died from the effects of the blow. The murderer was placed in jail, but it is believed he will be lynched. So runs the newspaper despatch.

Instruction in physiology in the public schools will teach the rising generation of males the consequences of marrying supernumerary digits or other physical or mental peculiarities. Male adults will not only be expected to know their own taste in these matters, but also the consequences of their acts, and there will be no possible excuse for such an act as that of the Illinois farmer.

— Professor Charcot in a recent letter addressed to Dr. Merlotti, an Italian physician, alludes to the danger to morals and health which are likely to result from public exhibitions of hypnotism. The induction of the hypnotic condition, he says, is by no means as inoffensive as we are asked to believe; it approximates so nearly to the hysterical neurosis that under certain circumstances it may, like the latter, become freely contagious. If medicine in the cause of science has taken up this condition, its production should be restricted to the narrowest limits, and it ought never to be allowed in profane hands, capable of misusing it to the public detriment.

— An English contemporary gives the following statistics, as showing the past and present revenue derived from the duty on proprietary medicines in Great Britain. In 1865 the receipts under this head were £55,333. Ten years later the amount had increased to £114,323, and last year it was upwards of £171,000. Although the quantity of patent medicines placed upon the market did not increase in so large a proportion between 1876–86 as between 1875–85, the public demand would appear to have been more general from the fact that the number of vendors increased by 35 per cent. during the recent, as against 26 per cent. of the earlier period. The label duty being equal to one-eighth of the value of the article stamped, we have a ready means of estimating the approximate annual expenditure in patent medicines. Within twenty-one years it has risen from £497,997 to £1,611,639.

— The *Journal* has already referred editorially to the reported discovery by Dr. Edington of Edinburgh, of a definite bacillus, provisionally termed the bacillus scarlatinæ, obtained from the blood and desquamation of scarlatinal patients, a claim at variance, as will be seen, with Dr. Klein's recently published researches showing the streptococcus scarlatinæ to be the cause of the disease. The Medico-Chirurgical Society of Edinburgh, has appointed a committee to investigate the method and repeat the experiments conducted by by Dr. Edington with a view, if possible, to the speedy corroboration of the important discovery. The Committee consists of Professors Grainger Stewart (President), Greenfield, and Drs. Carmichael, Hare, Philip, and Woodhead. The Society arranged a discussion on scarlatina for Wednesday, July 20th, when it is hoped the Committee might have some preliminary reports to offer.

— Dr. E. D. d'Oliveri in *La France Médicale*, June 21, 1887, calls attention again to the superiority of iodide of ammonium over the salts with other bases. Rabuteau, in 1872, said that iodide of ammonium was less stable than the other iodides, and more rapid in action, and therefore to be preferred in cases of grave syphilis where prompt and energetic action was necessary. Oliveri says that the chief hindrance to the use of this drug in France has been the impurity of its commercial preparation and its chemical instability. Meynet, a Parisian pharmacist, is said to have produced an aqueous solution of the strength of one gram to the teaspoonful, which is at once pure and stable.

— Sir Andrew Clark in the *Lancet*, June 11, 1887, describes a speedy and sometimes successful treatment of hay fever by the application through the nostril to the naso-pharyngeal cavity on a laryngeal brush of a mixture thus composed: glycerin of carbolic acid, one ounce; hydrochlorate of quinine, one drachm, and one-thousandth part of perchloride of mercury, heat being required to dissolve the quinine. If there is much mucus in the nostrils, cleanse them by means of a douche of warm water containing boroglyceride, in the proportion of an ounce to the pint. The brush is to be loaded with the mixture but not to overflowing; the left hand steadies the left side of the patient's head and the thumb controls the shape of the nostril by being applied to the top of the nose. The brush is carried first to the upper part of the nasal cavity, and then through the posterior nares to the pharynx. If the symptoms are severe the brush may need to be applied to the pharynx through the mouth. The application is painful to the patient, and of this fact he should be forewarned. But the pains, smarting and occasional bleeding pass off in half a day. Sometimes one application has stopped the disease for a whole season, and four times within the author's own knowledge it has never reappeared. The treatment may be renewed on alternate days or each third day, but two or three applications are enough to insure the chance of success.

NEW YORK.

— Dr. Moreau Morris, in charge of the extra service of summer physicians reported to the Board of Health, July 20th, that during the first week of the service the members of the corps inspected 4,738 houses, inhabited by 32,710 families, and distributed 2,459 circulars imparting sanitary information, and 673 tickets for the St. John's Guild Floating Hospital excursions. They prescribed for 867 cases of sickness, of which 475 were diarrhœal in character.

— In the reorganization of the Board of Health recently adopted by the Commissioners, Dr. R. S. Tracy was made Chief Inspector in the Sanitary Bureau, Dr. Cyrus Edson Chief Inspector of Food, and Dr. William Bullard Chief Inspector in charge of the work of the Sanitary Police.

— Dr. Joseph C. Hutchinson, the most eminent general surgeon of Brooklyn, N. Y., died at his residence in that city, July 17th. He was born at Old Franklin, Howard County, Missouri, in 1827, and graduated from the Medical Department of the University of Pennsylvania, in 1848. After practising for four years in his native State he removed to Brooklyn, where he remained in active practice up to the time of his last illness. He devoted himself principally to surgery, and won for himself a national reputation. He founded the Brooklyn Orthopædic Infirmary, and for many years was its chief surgeon. In 1860, he was elected Professor of Operative and Clinical Surgery in the Long Island College Hospital, a position which he held for seven years, and not long since he was made President of the collegiate department of that institution, in place of the late Dr. Dudley. For three years, beginning in 1873, he served as Health Commissioner of Brooklyn, and somewhat earlier than this, he was elected President of the King's County Medical Society. He was one of the founders of the New York State Medical Association, and was the first President of the Fifth District Branch of that Society. Dr. Hutchinson was one of the foremost citizens of Brooklyn, and was universally held in the highest esteem.

Miscellany.

A CYCLE OF TUBERCULOSIS INFECTION.

Besides cases of infection of tuberculosis in the human subject as described in Dr. Knight's paper in another column of this Journal, well authenticated instances have not been wanting of transferrence of tuberculosis from man to animals and vice versa. The domestic fowl has been known to prove an easy prey to this species of infection, as when the sputum of a consumptive patient was cast into a barn-yard, infecting a whole flock of hens. The following case, reported by Dr. Lamallerée, of the congress of the French Scientific societies, in Paris, and recorded by the French Correspondent to the *Therapeutic Gazette*, shows the chain of contagion of tuberculosis (1) from man to man, (2) from man to animal, (3) from animal to man.

In 1872 a young man liberated from military service after he had been a prisoner of war, came to a small village, where he settled as a woodcutter. Although suffering from bronchitis, he married a young girl of the locality, but soon after he was taken with hæmoptysis, and died within a year after his marriage, leaving a child rather delicate. The widow, who had been a strong, healthy girl, gradually became consumptive, so that in 1885 she had cavities in her lungs, profuse expectorations, and now she presents all the symptoms of an approaching end. Dr. Lamallerée was recently called upon to see a neighbor of the widow just mentioned, a young women whose antecedents could not lead him to suspect tuberculosis. The patient, nevertheless, was found to suffer from incipient phthisis. After long questioning, it was ascertained that within some four months she had eaten eleven chickens bought from her neighbor, and as her strength was failing she had roasted them very slightly, hoping to thus get more nourishment. From her

house the doctor stepped into the widow's whose case he knew well, to ascertain how the hens were fed, how they had died, and whether they were in the habit of absorbing sputa. On this point he received prompt satisfaction. As he was walking into the house he heard the widow have a fit of coughing, and immediately a legion of chickens ran in, as they are wont to when hearing the voice of one who feeds them, and began to fight around the bed for the consumptive's sputa. One of the hens having died the same morning, the doctor found in the animal seventeen soft tubercules; the liver was honeycombed with them, and the liquids contained many bacilli.

THE DEATH POINT OF MICRO-ORGANISMS.

AN important paper by Dr. Geo. M. Sternberg, in the July number of the *American Journal of the Medical Sciences*, gives the results of his experiments as to the temperature necessary to destroy the various known micro-organisms. His conclusions are as follows:

(*a*) The temperature required to destroy the vitality of pathogenic organisms varies for different organisms.

(*b*) In the absence of spores, the limits of variation are about 10° Centigrade (18° F.)

(*c*) A temperature of 56° C. (132.8° F.) is fatal to the bacillus of anthrax, the bacillus of typhoid fever, the bacillus of glanders, the spirillum of Asiatic cholera, the erysipelas coccus, to the virus of vaccinia, of rinderpest, of sheep-pox, and probably of several other infectious diseases.

(*d*) A temperature of 62° C. (143.6 F.) is fatal to all of the pathogenic and non-pathogenic organisms tested, in the absence of spores (with the single exception of *sarcina lutea*, which, in one experiment, grew after exposure to this temperature).

(*e*) A temperature of 100° C. (212° F.) maintained for five minutes destroys the spores of all pathogenic organisms tested.

(*f*) It is probable that some of the baccilli which are destroyed by a temperature of 60° C. are from endogenous spores which are also destroyed at this temperature.

ALBUMINURIA IN HEALTH.

PROF. GRANGER STEWART has recently made an important communication on the above subject to the Royal Society of Edinburgh, based upon a large series of examinations of the urine of persons supposed to be healthy, the tests being carefully made with nitric and picric acids. According to the *Medical Press*, Professor Stewart examined the urine of 407 persons, and discovered albumen in 129, that is, in 31 per cent. Care was taken to avoid such fallacies as might arise from the presence of gonorrhœa, spermatorrhœa, and such like. Of 205 soldiers, 77, that is, 37.56 per cent., had albumen. Of 74 civilians, 10.8 per cent. had albumen. Of 40 pauper children in one of the city poorhouses, 17.5 per cent. had albumen, and of 40 adult paupers of about sixty years of age, 67.5 had albumen.

The following table shows the per cent. of persons having albuminuria before and after breakfast:

	Before Bkfst.	After Bkfst.
Soldiers	15.6%	40.6%
Old Men	37.5%	67.5%
Children	12.5%	17.5%
Children (2d group)	14.6%	20.8%

Professor Stewart also drew attention to the effect of exercise and exertion. Thus, of a party of soldiers, before taking exercise, 29 per cent. had albuminuria, and on their returning from an eight miles' march, the percentage was lowered to 19. Again, of a party of soldiers, 15.6 per cent. had albuminuria before breakfast, 40.6 per cent. after breakfast, and 28.1 per cent. after a march of eight miles. When more severe exertion was undertaken, the results were different. Thus, before commencing coaling duty (that is, the carrying of and distributing coals from the basement to the upper parts of Edinburgh Castle), soon after breakfast, 44 per cent. showed albuminuria, and after they had finished the work, the percentage was found to be raised to 64 per cent. Of band boys, playing wind instruments, he found the percentage having albumen to be 20.8, while in other boys in the same institution not so employed, the percentage was 8.3; but, after one hour's playing, the band boys showed a diminished percentage of 12.5. Of 21 boys in the orphan hospital, 19 per cent. showed albumen before taking a cold bath, and after the bath, the percentage was increased to 23.8. Professor Stewart draws the following, among other conclusions: That there is no sufficient proof that albumen is normally discharged from the human kidneys. That albumen is much more common among presumably healthy people than was formerly supposed, tests having demonstrated its presence in nearly one-third of the population. That the frequency of albuminuria increases as life advances. That it is more common among those whose occupations involve arduous bodily exertion than among those who lead easy lives. That albumen frequently follows the taking of food, especially of breakfast, which, more than any other meal, increases the amount of albuminuria. That moderate muscular effort rather diminishes than increases albuminuria. That it is often induced by violent and prolonged exertion. That cold bathing produces or increases it in some individuals. That the existence of albuminuria is not of itself a sufficient cause for the rejection of a proposal for life insurance.

PUERPERAL INSANITY.

AN interesting discussion on the above subject took place in a recent meeting of the Washington Obstetrical and Gynecological Society, introduced by a paper by Dr. F. C. Fernald. The paper and discussion are to be found in the *American Journal of Obstetrics* for July. Dr. Fernald's conclusion as to the etiology of the affection was as follows: —

"I would say that a hereditary neurotic constitution is the predisposing cause, while the exciting cause is physical depression, resulting from a number of factors of which labor is only one, some of the remainder having usually been acting for a shorter or longer time before delivery."

The chair called attention to the comparative percentages of recoveries in the three forms of insanity — pregnancy, parturition, and lactation. A table presented by Dr. Adams showed that these forms of disease are more frequent and more favorable in reverse of the order named. The farther the attack is removed from the period of pregnancy, the greater the

probability of recovery and the shorter the duration of the disease. The table shows, also, that the average age of the cases of insanity of parturition and lactation is less than that of the cases of insanity of pregnancy, but the difference is not sufficient to account for the lessened mortality and duration of the other classes.

Dr. W. W. Godding said that the three forms of puerperal insanity are frequently confounded in statistics. They, however, seemed to him to be different conditions, all, perhaps, dependent upon an exalted nervous state, but insanity prior to the birth of the child appears to be of an inherited type, the pregnancy being merely the exciting cause.

The insanity of parturition is the only true puerperal insanity. The conditions at this time are favorable for an outbreak; there is exhaustion of the vital powers, anemia and nervous irritability.

He thinks there is good reason to differentiate puerperal insanity from ordinary mania or melancholia. In puerperal mania there is an intensity of type. The patients exhaust early, and when there is no inflammation of the brain, exhaustion is the danger. For this reason the feeding of such patients is of the greatest importance, and he would advise easily digestible foods, as eggs and milk with wine, etc. Fatal cases usually die in two or three weeks, but if they live beyond three weeks, there is a good chance of their getting well, though they may run into dementia.

Speaking from memory, he would have said that the death-rate was about five per cent. in those cases which were uncomplicated with hereditary insanity, and from eight to ten per cent. in women from all causes. From hastily prepared figures which he had brought with him, drawn from the records of St. Elizabeth, he finds the death-rate twenty per cent., and that only twenty-five per cent. are cured — a sad commentary on the curability of the disease. Some cases admitted under puerperal insanity have gone on to chronic mania, and their death from ten to twenty years after ought hardly to be said to result from puerperal mania. Such statistics are deceptive and misleading.

A point which he has often observed is that women, even in the best walks of life, make use of the most horrible profanity and obscenity during these attacks.

While it is probable that the origin of the trouble is in the genitalia, pyemia is not the cause, in his opinion. The condition is one of exhaustion, the brain being irritated, not inflamed. The pulse is usually soft and not above one hundred, the temperature only slightly raised, and no evidences of pyemia.

Dr. Godding remarked that he has always fought against the admission of such cases into an asylum. The stigma attached to this proceeding, and the critical condition of the health of the woman should, he thought, lead the general practitioner to carefully consider the circumstances in each case before he advised such removal.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 16, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	1102	667	43.02	7.83	.63	4.32	34.38
Philadelphia	993,801	543	289	26.53	10.26	.54	.90	21.60
Brooklyn	745,108	543	331	41.94	8.46	.18	4.32	36.36
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	253	139	37.52	7.92	1.58	1.98	30.49
Boston	400,000	211	111	36.49	12.79	1.41	1.41	26.91
New Orleans	242,750	134	54	14.25	9.00	—	3.00	6.00
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	112	56	43.61	7.12	1.78	.89	34.71
Pittsburgh	210,000	128	63	50.70	7.81	6.24	2.34	37.44
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	139	108	43.20	6.48	1.44	2.16	36.00
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	60	33	32.60	4.89	4.89	—	24.45
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	22	14	36.40	18.20	—	—	27.30
Charleston	60,145	43	28	27.96	6.99	—	2.33	23.30
Portland	40,000	13	7	23.07	7.69	—	15.38	7.69
Worcester	68,383	36	16	33.36	19.46	2.78	2.78	27.80
Lowell	64,051	41	23	48.80	7.32	8.32	—	29.28
Cambridge	59,600	43	25	44.27	6.99	—	2.33	41.94
Fall River	56,863	47	35	—	—	—	—	—
Lynn	45,861	16	7	31.25	12.50	6.25	—	25.00
Lawrence	38,825	20	11	35.00	5.00	—	—	30.00
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	14	6	14.28	21.56	—	—	14.28
Somerville	29,992	18	8	44.44	16.66	—	—	44.44
Salem	28,084	16	6	31.25	12.50	—	—	25.00
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	11	3	27.27	9.09	—	—	27.27
Taunton	23,674	6	2	16.66	16.66	—	—	16.66
Haverhill	21,795	17	9	52.20	11.80	—	5.90	41.30
Gloucester	21,713	3	1	—	33.33	—	—	—
Brockton	20,783	3	0	33.33	66.66	—	—	—
Newton	19,759	5	1	—	—	—	—	—
Malden	16,407	3	2	—	—	—	—	—
Fitchburg	15,375	10	4	10.00	20.00	—	—	10.00
Waltham	14,609	3	2	66.66	—	—	—	66.66
Newburyport	13,716	8	0	—	25.00	—	—	—
Northampton	12,896	5	4	—	—	—	—	—

Deaths reported 3,628: under five years of age 2065; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1,389, consumption 326, lung diseases 130, diarrhœal diseases 1,125, diphtheria and croup 103, typhoid fever 39, measles 34, malarial fever 32, whooping-cough 20, cerebro-spinal meningitis 16, scarlet fever 14, puerperal fever five, erysipelas two. From measles, New York 12, Philadelphia nine, Lowell four, Boston, District of Columbia, Pittsburgh and Milwaukee two each, Brooklyn one. From malarial fever, New York 11, New Orleans seven, District of Columbia and Pittsburgh four each, Philadelphia and Worcester two each, Brooklyn and Boston one each. From whooping-cough, Philadelphia and Boston five each, Baltimore three, New York and Nashville, two each, Richmond, Pittsburgh and Milwaukee, one each. From cerebro-spinal meningitis, New York seven, Milwaukee two, Richmond, Boston, Baltimore, District of Columbia, Charleston, Lowell and Brockton one each. From scarlet fever New York seven, Brooklyn, Boston, Baltimore Pittsburgh, Worcester, Lawrence and Salem one each. From puerperal fever, Brooklyn three, Philadelphia two. From erysipelas, New York and Philadelphia one each. From small-pox (New York) one.

In the 21 cities and greater towns of Massachusetts, with a population of 883,525 (population of the State 1,941,465) the total death-rate for the week was 26.37 against 27.12 and 21.77 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending July 2d, the death-rate was 18.1. Deaths reported 3,207: infants under one year of age 807; acute diseases of the respiratory organs (London,) 199, measles 156, whooping-cough 136, scarlet fever 38, diphtheria 22, fever 22, small-pox (Cardiff) two.

The death-rates ranged from 9.4 in Derby to 29.2 in Manchester; Birmingham 15.9; Hull 16.7; Leeds 18.7; Leicester 14.2; Liverpool 21.4; London 16.6; Norwick 20.8; Portsmouth 12.5; Sheffield 19.1; Wolverhampton 19.4.

In Edinburgh 16.9; Glasgow 19.9; Dublin 29.4.

The meteorological record for the week ending July 16, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, July 16, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs.& Min.	Amount in Inches.
Sunday,...10	29.59	67.0	86.0	61.0	97.0	80.0	87.0	88.0	S.	S.	W.	5	7	10	O.	F.	F.	1¾	.77
Monday,...11	29.72	69.0	75.0	63.0	88.0	71.0	87.0	82.0	W.	N.W.	N.	11	18	5	O.	O.	O.	10	.34
Tuesday,..12	29.97	67.0	71.0	65.0	85.0	78.0	88.0	84.0	N.E.	E.	S.	4	8	5	O.	C.	C.	2	.02
Wednes.,.. 13	29.85	80.0	92.0	66.0	77.0	41.0	70.0	63.0	S.	N.W.	W.	10	11	10	O.	C.	C.		
Thursday, 14	29.95	73.0	81.0	69.0	45.0	34.0	51.0	43.0	N.	W.	W.	16	15	12	F.	C.	C.		
Friday, ...15	29.98	70.0	78.0	63.0	41.0	31.0	68.0	47.0	N.W.	N.	W.	24	15	8	F.	F.	C.		
Saturday,..16	29.87	72.0	80.0	64.0	72.0	62.0	84.0	73.0	W.	S.W.	S.	6	12	5	O.	F.	C.	1	.02
Mean, the Week.	29.847	71.1	80.0	64.0				68.6										14¾	1.15

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 16, 1887, TO JULY 22, 1887.

By par. 43 S. O. 162 A. G. O., July 15th, so much of par. 1 S. O. 156 c. s., A. G. O., as directs Capt. Jno. de B. W. Gardiner, Assistant Surgeon United States Army, to report for duty at Fort Washakie, Wyo., is revoked.

BARNETT, R., captain and assistant surgeon. Sick leave still further extended six months on account of sickness. S. O. 162 A. G. O., July 15, 1887.

By par. 42, S. O. 162, A. G. O., July 15th, so much of par. 1 S. O. 156, c. s, A. G. O., as relieves Capt. Geo. H. Torney, Assistant Surgeon, United States Army, from duty at Fort Monroe, Va., is revoked.

TAYLOR, A. W., captain and assistant surgeon. Now at Fort Laramie, Wyo., is ordered for temporary duty at Fort Robinson, Neb. S. O. 162, A. G. O., July 15, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING JULY 23, 1887.

FESSENDEN, C. S. D., surgeon. Granted leave of absence for thirty days on account of sickness, July 18, 1887.

MEAD, F. W., passed assistant surgeon. Granted leave of absence for thirty days, July 19, 1887.

YEMANS, H. W., passed assistant surgeon. Granted leave of absence for thirty days, July 23, 1887.

BROOKS, S. D., passed assistant surgeon. Promoted and appointed passed assistant surgeon from July 1, 1887. July 21, 1887.

WHITE, J. H., assistant surgeon. To proceed to Washington, D. C., as escort to an insane seaman, July 18, 1887. Ordered to examination for promotion, July 23, 1887.

WATKINS, R. B., assistant surgeon. Leave extended fourteen days, on account of sickness, July 20, 1887.

MAGRUDER, G. M., assistant surgeon. To proceed to Galveston, Tex., for temporary duty, July 21, 1887.

RESOLUTIONS OF THE SPRINGFIELD MEDICAL SOCIETY ON THE DEATH OF DR. JOHN S. BAGG.

The Springfield Society for Medical Improvement, through its committee appointed for the purpose, present the following resolutions upon the death of the late Dr. John S. Bagg.

Resolved, That in the death of Dr. John S. Bagg, the profession has lost one of its most promising members; one who possessed unusual qualifications for the practice of his profession; who was the very soul of honor in his relations with other physicians, who despised all pretense, who did what he had to do thoroughly and well; who frowned upon all professional work that was not strictly honest and honorable; seeking for himself only that professional reputation and reward which ultimately attends upon real merit.

Resolved, That the community has been deprived of a citizen who always manifested a warm interest in all public affairs, and who contributed liberally to the artistic and charitable enterprises of the city, which he had but recently made his home.

Resolved, That the Springfield Society for Medical Improvement, of which the deceased was an honored and a beloved member, extends its profound sympathy to his family, and that a copy of these resolutions be sent to them and to the *Boston Medical and Surgical Journal*.

G. S. STEBBINS,
F. W. CHAPIN,
DAVID CLARK, } *Committee.*

BOOKS AND PAMPHLETS RECEIVED.

Report of Proceedings Illinois State Board of Health, Quarterly Meeting, Chicago, July 8, 1887.

Fifth Annual Announcement of the Northwestern Ohio Medical College, Toledo, Ohio. Session of 1887-88.

Transactions of the South Carolina Medical Association. Thirty-Seventh Annual Session, held in Aiken, S. C., April 12 and 13, 1887.

Twelfth Annual Announcement and Catalogue of Meharry Medical Department of Central Tennessee College. Nashville, Tenn. 1886-87.

Verzeichniss der Curse welche wehrend der Ferienmonate August und September im Jahre 1887, an der medicinischen Facultät in Wien abgehalten werden. 1887.

On the Classification of Mental Diseases. By Ralph L. Parsons, M.D., Greenmont-on-the-Hudson, near Sing Sing, New York. New York: D. Appleton & Co. 1887. (Reprint.)

"Renal Colic, Parasitic and Calculus." A Criticism. By J. B. Marvin, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine in the Kentucky School of Medicine. 1887. (Reprint.)

Original Articles.

ON THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE, AND ON CERTAIN POINTS IN THE SYMPTOMATOLOGY OF CHRONIC LEAD POISONING.[1]

BY JAMES J. PUTNAM, M.D.

THAT some of the characteristic symptoms of spastic paraplegia are occasionally due to lead-poisoning can, I think, be established beyond much doubt, though the fact is not generally recognized, all the writers on the subject, from Tanquerel down, speaking of the paralysis of the legs as characterized by atrophy and muscular relaxation, like that of the upper extremity, not by rigidity and exaggerated deep reflexes. The former condition is certainly the rule, and for the simple reason that the paralysis of the legs, like that of the arms, is usually due to peripheral neuritis. Brissaud, for example, takes this view, in his recent and excellent monograph on the toxic paralyses,[13] yet, while calling attention to the fact that the so-called deep reflexes are habitually diminished or lost, he says that in exceptional cases they are exaggerated, owing as he thinks, to a sort of associated condition of spinal irritation.

Brissaud also points out that the interesting observations on the effects of poisoning by the different species of lathyrus, in the southern countries of Europe, and especially the investigations by Bouchard and Proust, show that the typical symptoms of lathyrism consist in spastic paraplegia, with exaggerated deep reflexes and without marked sensory symptoms. Ergot[14] also causes pronounced spastic paraplegia as its typical sign of its poisonous action.

Besides this spastic form, there is a flaccid form of lathyrism paralysis which Brissaud thinks is perhaps of peripheral origin, and may justify the ranking of this poison under the same head with lead, arsenic and alcohol. The question is whether these latter agents also, or at any rate lead, besides the flaccid paralyses or peripheral origin may not sometimes cause a typical spastic paraplegia.

I am well aware that the presence of ankle-clonus and exaggerated knee-jerk cannot be taken as proof of the existence of spinal sclerosis. They are found exaggerated in hysteria and neurasthenia, acute and chronic, and I have seen both quite recently in two cases of severe anæmia, one following rheumatism and one of unknown origin. They may, in short, indicate only a functional, nervous hyperexcitability. Such may have been the origin of the symptom in a case reported by Dr. Dercum, of Philadelphia,[15] where a very large amount of lead was found in the urine, and which was characterized otherwise by the following symptoms; loss of strength and weight for two years; great nervousness; insomnia; severe itching of the skin; numbness of the right arm; indigestion; cramps in the abdomen; exaggeration of the knee-jerk.

Finally, Möbius, and Strümpell have reported two cases supposed to be instances of multiple neuritis, in which this symptom was present, and perhaps another example of this kind is furnished by the following case, which was reported by Dr. S. G. Webber[16] as probably an instance of lateral sclerosis due to lead, but which seems best interpreted as peripheral polyneuritis with exaggerated knee-jerk.

"Female patient, married, twenty-three years old; numbness and pain below the elbows and knees, for three months past; swelling of legs; at time of examination, paralysis of feet in extension, with pain on passive motion; delayed sensation from feet; complete paralysis of extensors of wrist and fingers, and incomplete paralysis of the rest of the muscles of the arm below the elbow; diminution or loss of Faradic reaction; urine contains considerable lead; knee-jerk very greatly exaggerated, improvement under treatment."

Setting aside for the moment the question whether we are justified in assuming that the pronounced exaggeration of the knee-jerk and the presence of the ankle-clonus in these cases is really due only to a general nervous erythism, or to an irritability of the spinal cord, let us glance at the remaining evidence that this symptom and other signs of spastic paraplegia are seen in typical lead-poisoning and in the cases where lead was found in the urine.

The first case is that of T. C., a stone-cutter, from Quincy, who came to the Massachusetts General Hospital on May 5, 1887. He reported that he had a chancre four or five years ago, followed he thinks, by secondary symptoms, and used also to drink a good deal of liquor, but not for three or four years. Except for this his previous health had been good, and he had not at all the appearance of a person suffering from the cachexia of alcohol. For three or four years he has not felt well, and has been subject to "jumping" pains in the head, back and legs, especially about the knee; also pains in the abdomen, not always attended with indigestion.

Three months ago he began to lose power in the extensors of the fingers and thumb of the left hand. This increased steadily but is still incomplete, the little finger being extended fairly well; the others in the order in which they follow. The extensores carpi radialis and ulnaris are both deficient, the ulnar extensor, as is usual in lead paralysis, acting the best. There is slight tremor on attempted extension of the fingers. The muscles of the right arm are in a similar but much less serious condition; that is, there is a slight tremor and incomplete extension of the fingers. The electric examination shows loss of Faradic reaction in the extensor communis digit of the left arm, and R. D. at three M. A. The Faradic reaction of the flexors of the left arm, and of both flexors and extensors of right arm is normal. The knee-jerk is exaggerated on both sides, though more left than right, and there is a trace of ankle-clonus, increased by "reinforcement." There is no marked spastic gait, but at times his legs feel stiff.

The second case is as follows: Male patient; works at grinding up old articles of manufactured rubber (in the making of which litharge is used); has had severe abdominal pains for the past four months; constipation; tenderness on pressure over the abdomen; fatigue in walking; insomnia, due he thinks to the pains; yellowish cast to conjunctiva and complexion; *marked blue-line* on the gums; exaggeration of the knee-jerk, and trace of ankle-clonus.

I am indebted to Dr. R. T. Edes for the notes of the following cases:

(1) Jennie C., aged twenty-two. Sharp pains in legs, with numbness and inability to walk; creeping

[1] Concluded from page 76.
[13] Des Paralysies Toxiques. Paris, 1886.
[14] Tuczek, Arch. für Psych. und Nervenkrankheiten, 1887, xviii, 329.
[15] Philadelphia Medical News, January, 1887.
[16] Archives of Medicine, New York, Vol. viii, 1882, No. 1.

sensations in the hands; muscular tremors; exaggerated deep reflexes; lead in urine.

(2) John D., aged twenty-six. Pains in thighs, and numbness of legs; staggers a little in walking and standing with eyes closed; patella reflex exaggerated; ankle-clonus. No syphilis. In this case the urine was not examined for lead, but it is some evidence in favor of its presence that the patient worked in rubber, an industry in which lead is largely used, and which has furnished me with a typical case of spastic paraplegia, and two cases of typical lead-poisoning.

Finally, we come to the instances of typical spastic paraplegia and allied cases, where lead was found in the urine.

Of these the first is the case of a plumber, who besides a typical spastic paraplegia, which was of a year and a half's standing, had considerable impairment of hearing and eyesight, of the same duration, slight but distinct trembling or twitching of the lips and muscles of the face, in talking, and looked pale and rather sickly.

In the second and third cases the symptoms of spastic paraplegia were also well marked. A certain degree of support to the motion of causation by lead, besides the finding of lead in the urine, was furnished by the fact of considerable improvement, partly under treatment, partly without treatment, so that one of the patients was eventually able to resume work though not cured.

The significance of this improvement as a sign of poisoning rather than of progressive degenerative disease could easily be overrated. Such cases do sometimes improve, at any rate, for a time, and in one of these the improvement seemed more or less independent of the taking of potassic iodide. Still, improvement for any considerable length of time is not common in the run of cases of chronic myelitis of any form. It is also worthy of note that, as Tuczek [17] has pointed out, the spinal sclerosis due to ergot, which gives rise to these same symptoms of spastic paraplegia, shows a rather remarkable tendency to remain without progressing, though without much improvement, when the patients are withdrawn from the influence of the poison.

In a fourth case the patient was a painter, and besides his spastic gait and exaggeration of the deep reflexes, he suffered from attacks of dizziness and increased frequency of micturition. A small trace of lead was found in the urine. The symptoms seemed to indicate an extension of the disease beyond the limits of the spinal cord.

In a fifth case the spastic symptoms were accompanied by signs pointing to multiple sclerosis; ataxia of arms and legs; almost universal paræsthesia and anæsthesia, especially in patches; great impairment of muscular sense; excessive hyperæsthesia to contact with hot or cold objects; transient hemiparetic attack; tremor on effort. These was exaggerated knee-jerk but no ankle clonus; no cachexia suggesting lead.

On the other hand, in three typical cases of spastic paraplegia, one of them complicated with atrophy of the muscles of the hands and arms without contracture, no lead was found. The test for lead was also applied, and none found in another case, which might be classed under the head of multiple sclerosis, but this was evidently not a case of sclerotic inflammation of the ordinary type, but rather of some hereditary degenerative process, the patient being a young girl and the case peculiar in several respects.

I am by no means prepared to assert that a clear case is made out for the causation by lead of typical chronic spastic paraplegia, or of ataxic paraplegia. I would only claim that the cases I have reported indicate that as a direction in which to look in the future. The fact that ergot and lathyrus, cause the same group of symptoms, and that syphilis leads to another form of spinal sclerosis, rather encourage us to look favorably upon the evidence adduced, and what we already know of the pathology of lead-poisoning does not make such a connection intrinsically improbable.

It is perfectly true that the great weight of pathological evidence is in favor of the view that the typical lesion of lead paralysis is an inflammation not of the spinal cord, but of the peripheral nerves, but it is equally true that the nutrition of the spinal cord is sometimes more or less grossly impaired (in six out of fourteen cases, as Dr. Birdsall [18] made out from an analysis of autopsies, published up to 1881. See also Schultze,[19] Oppenheim,[20] Brissaud,[21] and Robinson.[22])

Again, although it is true that typical *outspoken* lesion in lead-poisoning is usually confined to the peripheral nerves, and even to the peripheral extremities of the peripheral nerves, yet, as is pointed out by Oswald Vierordt, the writer who has spoken the latest word on the subject,[23] lead paralysis is, after all, a "system" disease, not a general neuritis, and as such probably affects in some degree all the segments of the motor system of which those special nerves form a part. The injury to the spinal cord probably effects no more, in most cases, than an impairment of its normal nutritive influence upon the peripheral nervous and muscular apparatus. If this opinion is correct, the involvement of the spinal cord may be a matter only of more or less, and it is not inconceivable that the antero-lateral pyramid tracts of the spinal cord, though not forming a part of the lower nerve segment (Gowers) which is primarily involved in lead-poisoning, might be secondarily involved, as so often happens, in progressive muscular atrophy; or might be primarily and separately attacked; or, finally, the disease in them might be due to thickening of the vessels so common in lead-poisoning. Such reasoning is, however, of secondary importance in the absence of more definite clinical and pathological evidence.

In contrast with these cases where the motor spinal tracts were involved and where lead was so often present, I would mention that in three cases of local ataxia; five cases of progressive muscular atrophy; and one which was a case of either acute symmetrical neuritis, or of polymyelitis of the adult, no lead was found.

The next group of cases examined for lead is characterized by more or less distinctly localized cerebral or cerebro-spinal symptoms. This group contains seven cases, in all of which lead was found. Three of these cases may be excluded because the disease was fairly assignable to other causes. The other cases

[17] Arch. fur Psych. und Nervenkrankheiten, 1887, xviii, 329.

[18] Journal of Neurology and Psychiatry, New York, 1881.
[19] Ueber Bleilähmung. Arch. für Psych. und Nervenkr, xvi, 1885. p. 791.
[20] Arch. für Psych. und Nervenkrankheiten, xvi, 1885, page 476.
[21] Loc. cit.
[22] Brain, Vol. vii.
[23] Arch. fur Psych. und Nervenkr. xviii, I, 1887.

are not sufficiently alike to make it worth while to consider them together, and I will therefore postpone the enumeration of them to a future time.

The next group is that of the epileptic cases. This contains eight cases, in only three of which lead was found. Of these three patients, one was a young lady in good circumstances, who was subject to peculiar attacks of petit mal, consisting in a sensation of nausea with little or no impairment of consciousness, and occasional attacks of temporary blindness of one eye. She was about twenty-five years of age, and had had the attacks for a number of years; no sign of lead cachexia was present, but lead was found twice in the urine, once in considerable quantity. At a third examination it was not found.

Of the second case I have no full notes. The patient was sixteen years old and had attacks of petit mal about once a week for three years: whether cachexia was present or not I do not know.

The third case seems to me of special interest. It is that of a student about twenty-six years of age, who had suffered during the past year from numerous attacks of petit mal, and one severe attack of outspoken epilepsy. There was no family predisposition to be discovered, and the patient could not remember ever to have had such seizures before, except that once, when about fifteen years old, while sitting at his desk reading or writing, his vision suddenly left him for a moment, as he thinks. The patient is decidedly pale, though this is in part natural; he looks rather feeble; there is slight tremor of the hands; he also did very well under treatment with potassic iodide, and bromide. The urine was examined three times for lead and twice it was found. I was inclined to make light of the connection between the lead and the epileptic symptoms until I found to my surprise, on asking the patient to extend the fingers and wrist to their full extent, to find that the three smaller fingers of both hands drooped considerably, those of the right hand more than those of the left, and that, on the electric examination of the muscles, the extensores communes digitorum of the right arm responded less easily to both galvanism and faradism than the corresponding muscles of the left arm. The interest of these cases centres on the inquiry which they suggest, whether lead can cause epileptic symptoms for any considerable length of time without signs of marked cachexia, or other serious phenomena of lead-poisoning. This condition, though certainly rare, seems to be occasionally met with.[24]

The epileptic attacks recorded as due to lead are usually severe and prostrating, but of course lighter attacks really due to lead may have been referred to some other cause. It seems to be certain that the children of parents with lead-poisoning suffer from convulsions, in which as a rule they die in infancy. That epileptic attacks of the type of petit mal may, however, be present for a long time without any serious cerebral symptom is well illustrated by the following case which I have recently observed.

It is that of a young woman twenty-seven years of age, employed in a shoe-shop in a country town, and drinking water which came, as is so common in country towns, through twenty feet of lead-pipe from a sunk well, the end of the pipe lying in the well. Her symptoms date back about three years. At this time her health began to fail, but she showed no more definite symptoms of lead-poisoning than frequent pains in various parts of the body, and in the abdomen, the latter, to be sure, so severe that she was thought by some of the physicians whom she saw, to have inflammation of the bowels. For two or three years she had, at short intervals, what she called "fainting spells," characterized by a loss of consciousness for two or three minutes, preceded by a sense of dizziness, but never attended by convulsions, and leaving her, after a few moments, in her normal condition. She also suffered a good deal with diffused headaches, and dizziness. After this state of things had continued for about two years, sometimes better and sometimes worse, she had a violent cerebral attack, with prolonged loss of consciousness, convulsions and amaurosis, lasting for nearly a week, and this was followed, after a time, by another similar, but less severe attack, and later by characteristic and severe palsy of lead, from which she recovered, only to be attacked by a similar paralysis of other muscles than those first affected. At the time of my examination there was an indication of blue line on the gums, incomplete extension of the fingers and wrist, and paralysis of the small muscles of the hands, with atrophy and reaction of degeneration.

Besides these groups of cases which I have reported, there are a number which do not fall under any single heading, with the recital of which I will not take the time of the association.

Looking back over all the groups, it may be pointed out: *first*, that the urines of persons known to be in perfect health, though their number is, to be sure, but few, were almost all free from lead; *second*, that in the cases of functional nervous disease, neurasthenia and epilepsy, the cases in which lead was found were in a decided minority; *third*, that in proportion as these nervous symptoms were associated with signs of organic disease, the proportion of cases in which lead was found became greater; *fourth*, that among the cases of organic disease, those in which lead was found with the greatest regularity were cases presenting symptoms of chronic diffused neuritis and chronic myelitis, especially of the motor tracts of the spinal cord; *fifth*, that among these cases, those which presented the least sign of cachexia, were those in which lead was not present; *sixth*, that the cases of progressive muscular atrophy showed no lead. Finally, I would suggest, as worthy of future study, the question whether lead may not cause epileptic symptoms of long continuance, without indicating its presence by other unequivocal signs.

In conclusion, I would call attention, as I have already done in a previous paper, to one occupation which has furnished me with several marked instances of lead-poisoning, and which, to my surprise, I cannot find set down among the dangerous employments from this point of view, and that is the manufacture of articles of rubber.[25]

[24] See Leudet; loc. cit.; also Schultze, Dissertation, Breslau, 1885, p. 21; Berger, Berl., Kl. Wochenschr., 16, March, 1884.

[25] Lead has been found in the rubber ends of feeding-bottles, in Europe.

—A *cause célèbre* in English law and politics, that of a Miss Cass, arrested on Regent Street, London, has brought out the admission on the part of the Police authorities that no reputable female can be or is expected to be seen on that street after dark.

DISEASE IN THE MILK-CAN.

BY JULIUS S. CLARK, M.D., MELROSE, MASS.

IT is fairly well established that diphtheria is excited by some forms of bacteria yet to be individualized. However this may be, its contagiousness is undoubted, and equally certain it is, that its contagious material may be communicated directly by the patient or be transmitted to a distance in various material ways. The more usual channels for the spread of this disease are believed to be drainage and a polluted water-supply; and, equally certain, if less often determined, it may be from infected milk of healthy or diseased cows. The results of very many investigations in England, France and Germany, establish beyond cavil the fact that diphtheria does occur among domesticated animals, and especially the cow, from which its transmission has been traced again and again. How frequently it is spread from the milk of healthy cows, through contamination outside the cow, either by the water-supply to the milk, or from infected vessels, or from absorption of atmospheric contagium, is of vital consequence to all.

When we reflect upon the fact that milk is so sensitive to meteoric conditions and has such absorbent qualities, or affinity, so to speak, for atmospheric poisons, it seems strange that so much stress is put upon the responsibility of the animal, and so little attention or research is given to other possibilities. Whenever it is established, as it frequently and undoubtedly is, that scarlet fever, typhoid and diphtheria gain entrance to the family through the milk-can, it is hardly just or wise to condemn offhand, the friend of all and the foster-mother of many, the cow. In many of the towns in the vicinity of Boston, the local vendor of milk nominally furnished his patrons from the limited product of a few cows, which he ostentatiously parades, while his chief supply is from a general dealer, who on his part collects it of the small producer, more remote, from a house-to-house visitation. Thus it will be readily seen that the chances of infection are multiplied in the ratio of the greater number of original sources from whence the supply is derived.

If one of these many small tributaries that feed the general stream should be the habitation of some infectious disease, it will be seen that with a little carelessness, or with the ordinary care that is exercised in the handling of milk in the average home, it would be extremely liable to pollution. For, while the large producer of milk has separate and special apartments for the treatment of the same, the one-to-three-cow producer *safely* cares for his under his own living-roof, where it may be exposed to deleterious and unhealthy influences at all times. Some facts of interest bearing upon the propagation of diphtheria which prevailed epidemically in Melrose and Malden, during June, July and August of last year, and which was the direct and immediate outcome of an infected milk-supply, I will recite: Of the several cases occurring in my own practice, I failed to discover any of the classical grounds, or *loci causæ* obtaining, but incidental inquiry elicited the fact that each had a common milk-supply, and further investigation found it also true in the cases of other physicians. In Melrose, twenty-three cases occurred in twelve families. In one of these families the contagium was from immediate contact with contiguous neighbors, who were down with the disease.

We have, therefore, eleven distinct foci of infection widely separate, (two only being within the same square) being generally near a line from North to South, of two miles in extent, at intervals of one-eighth of a mile. At these eleven foci of infection, or original cases, a certain local vendor served seven with milk, another two, another one, and a fourth one, while these four obtained milk from two wholesale dealers, who, on their part collected it in a neighboring town and district where diphtheria was then prevailing, and *from families in which diphtheria then existed.* If these were coincident phenomena they attain to the marvelous, when we consider that, of probably thirty distributors of milk, this disease only followed in the trail of a certain supply and failed to appear on the routes of twenty or more who drew their supply elsewhere and none of whom peddled this particular milk.

In the interest of truth and to satisfy an awakened curiosity as to the extent of the mischief wrought by this milk-supply, I pursued it in its effects still further. Being furnished with a list of cases in Malden, for the same period, I continued my investigations with the following results: Number of cases reported, twenty-seven; number of families in which they occurred, eighteen; of these one was not to be found, and one claims to have contracted the disease from a neighbor in whom it existed and with whom they intermingled freely. Now, of the sixteen foci of infection to be accounted for, thirteen received the infected milk. Of the remaining three, who were served by two vendors who received their main supply from the cars, no history is obtainable, but it is quite possible that it came from this very infected locality. It is also more that possible that these vendors supplemented a deficiency occasionally, as they are wont, from a brother vendor, or, what is quite as possible, they procured it direct from the wagon of one of these distributors of the infected milk, who daily passed their doors to a market several miles beyond. Social relations may and do have influence in the spread of zymotic diseases; poverty, uncleanliness and the effluvia of animal putrefaction establish a general condition favorable to the genesis of miasmatic contagious diseases. At least, under such conditions their development is encouraged and extended and their virulence intensified — but how much more? Wherever diphtheria occurs we enthusiastically search for filthy surroundings, or defective drainage, as the primitive cause, and with our willing senses these can be had to our satisfaction; yet it is very doubtful if it is ever caused by sewer-gas, or that it is ever endemic in the sense that ague is. True, certain endemic conditions of a sanitary and atmospheric nature do supply in many instances the predisposing cause as applied to the individual and his surroundings.

This may be equally said of typhoid, yet who with our limited knowledge can assert, that the sole condition of parentage, the noxious agent, the real element-producing disease, are these essentially? Experience, observation and discoveries are reducing some heretofore probabilities to present possibilities.

Let us turn from the speculations of fancy to the logical teachings of absolute facts, as set forth. We have an epidemic of diphtheria extending over four miles in length, including fifty subjects of this disease in thirty families, or, twenty-eight distinct foci of infection. No facts can be had in one instance, thus leaving twenty-seven to be dealt with. Of these

twenty-seven foci of the disease twenty-four were supplied with milk coming direct from families in which the disease was known to exist, leaving three only wherein we fail to make out a case that would warrant a verdict for conviction. Of the fourteen deaths resulting from this epidemic, thirteen were in families using the milk known to be infected, and one in the family in which no history is had. We emphatically assert that thirteen deaths were the immediate result of an infection conveyed by milk-supply, *the mischief of preventable cause.*

We have local ordinances, Board of Health rules and statute laws, for the isolation of the sick, the non-intercourse of family members, the destruction and disinfection of clothing and habitations, wherein exist typhoid, scarlet fever, small-pox and diphtheria, but nothing to restrain what may be the most pernicious factor in the spread of these — milk.

NOTE.— The facts and data of the above, in the completest detail, are in possession of the State Board of Health.

RECENT PROGRESS IN OPHTHALMOLOGY.[1]

BY MYLES STANDISH, M.D.

PATHOLOGY OF OPTIC NEURITIS AND CHOKED DISC.

DEUTSCHMANN [4] writes that the so-called choked disc (stauungspapille) is from the beginning an inflammatory condition, a true neuro-retinitis. There is no evidence in favor of the supposition that it is caused by compression of the ocular end of the nerve; the anatomical facts are opposed to this assumption. Schultén, on the ground of original experiments on animals, has lately come forward as an advocate of the compression theory of Schmidt and Manz. He raises the intra-cranial pressure by means of injections of salt solution into the sub-dural and sub-arachnoid spaces. He produced thereby a narrowing of the arteries, and an overfilling of the veins in the retina; he assumed that these vascular changes were caused by compression of the nerve by fluid in its sheath, and that they truly represented the first stage of the condition known clinically as choked disc. In other experiments, Schultén raises the brain pressure by injections of oil, wax, or gelatine, and by the introduction of small india-rubber bags between the dura-mater and the skull. In this way, also, he obtained the vascular changes in the disc above described.

Deutschmann, accepting the above observations as accurate, denies that they support the compression theory of choked disc. The vascular changes produced were not proved to be the beginning of the morbid process in question, or to be produced by the compression of the ocular end of the nerve by an excess of fluid in its sheath. To settle the matter more positively, he determines to solve, by means of further experiment, the two following questions:

(1) What degree of hydrops of the optic nerve in animals is required to produce changes in the disc similar to those of choked disc in man?

(2) Are there any conditions under which a moderate and even transient hydrops of the nerve, such as is often found post-mortem in man, is associated with the occurrence of choked disc?

For the determination of the first question he injected directly into the nerve sheath. Dividing the superior rectus he laid bare and cut through the optic nerve in front of the optic foramen; then drawing forward the distal end, and taking especial care not to rupture the central vessels at their entrance into the nerve-trunk, he injected warm sterilized agar-agar solution, the advantage of which is, that, at the body temperature it remains of a soft semi-fluid consistence, and is only very slowly absorbed. A ligature being then applied to the nerve, the divided muscle was sutured and the wound closed; the whole with antiseptic precautions. Healing follows almost without trace of the operation. By filling the nerve-sheath very forcibly, he obtained ophthalmoscopic evidence of a total arrest of circulation in the retina, and a few hours later a swelling and turbidity of the papilla, much resembling the choked disc in man. Microscopic sections showed a well marked compression of the nerve close to the globe, a swelling and œdema of the papilla, but no trace of a true neuritis. When the injection was made less forcibly, however, though still sufficient to produce a more marked hydrops than is usually found in man, he obtained only a temporary diminution of the arteries, and an overfilling of the veins, and the microscopic examination, several days later, showed no trace of pathological change, either in the nerve or papilla. Deutschmann concludes that in animals a choking of the disc comparable with that which occurs in man, can only be produced by a pressure sufficient in amount to arrest the circulation. No one, he points out, has found a degree of hydrops in the human optic nerve approaching to this required amount; and, moreover, the frequent retention of good vision in such cases refutes the idea of an arrested circulation. In the next place, Deutschmann made injections of agar-agar into the cranial cavity in order to fill the nerve-sheath by means of pressure within the skull. By repeating the injection from time to time in the same animal, he established not merely a transient excess of pressure in the skull, but one which was renewed from time to time, and by the antisepsis he obtained the effects of pressure without the inflammatory complication. A well marked injection of the optic nerve-sheaths, are equal in degree to that which is found in the human subject under conditions of morbid pressure in the cranium, and lasting for several weeks, was produced. Dissection showed that the sheath was forcibly distended, but that papilla, the nerve-trunk, and its sheath, were absolutely free from any trace of inflammation. From these experiments Deutschmann concludes that an excess of intra-cranial pressure, with distention of the optic nerve-sheath, does not of itself suffice to produce the choked disc. Deutschmann therefore adopts the theory of Leber, that hydrops of the optic nerve is concerned in the production of choked disc in a manner other than that assumed in the compression theory, namely, that the products of new formations, (tuberculosis and intra-cranial tumors), mixes with inflammatory exudation and with cerebro-spinal fluid, are carried into the intervaginal space of the nerve, and at its bulbar extremity excite inflammation of its tissues. To test this view, he repeated his injection experiments, but used an infecting instead of an aseptic material. A few drops of tubercular pus were injected with antiseptic precautions into the sub-dural space. No reaction followed. Three weeks later the papilla began to redden, and the veins to become tortuous; swelling

[1] Concluded from page 79.
[4] Monograph, Jena, 1887, Ophthal. Review, April, 1887.

of the papilla followed, and then these changes either subside or became gradually intense, until typical appearance of papillitis were developed; the process reached its acme in the fifth week, and then gradually subsided, leaving the appearance of post-neuritic atrophy. The microscope showed widely-spread miliary tuberculosis of the meninges: the intra-cranial portion of the nerve normal, the orbital portion more or less altered, the sheath being more or less distended with exudation in the early stages, and occupied with tubercle deposits in the later; the nerve and the sheath being both inflamed. It was evident that the changes in the papilla were not pressure effects, for they were present before any considerable tubercle masses were formed in the sheath. The conclusion Deutschmann draws from these experiments is as follows: choked disc does not depend upon pressure, it is excited by an irritating fluid, which passes together with the cerebro-spinal fluid, from the cranial cavity, along the nerve-sheaths, and which is arrested at the bulbar end of the nerve, and there produces an infective action.

OPTIC NEURITIS IN HEAD INJURIES.

Drs. Edmunds and Lawford[5] report twenty-four cases of head injury, in which the condition of the optic nerves had been observed, either ophthalmoscopically or microscopically. The microscopic evidence of neuritis consists in a considerable increase of staining corpuscles in the sheath space and in the nerve.

The cases were divided into three groups:

(1) Cases which ended fatally, directly from the severity of the head injury; eleven cases, four of which had optic neuritis, were included in this group.

(2) Cases which ended fatally, indirectly from complications; the group comprised four cases, two of which had optic neuritis.

(3) Cases which recovered; eight cases, six of which had optic neuritis, were included in this group. The optic neuritis was attributed to the spread of inflammation from the seat of the injury to the optic nerves; this might take place either along nerve tissue or by the meninges. The authors adopted the latter view, because: (1) while in some of the cases in which there was optic neuritis, basal meningitis was found; it never occurred in those cases in which optic neuritis was absent. (2) Those cases in which the base of the skull or brain was injured generally had optic neuritis, while those in which the injury was confined to the convexity of the brain, such as punctured wounds, had not. (3) In some cases of neuritis, transverse sections of the optic nerves showed the inflammation most marked at the periphery of the nerves and in the sheath space. The same authors, in reply to Deutschmann's article, say,[6] that if his theory be correct, he should be able to show that if the animals he killed in the first few hours or days after inoculation no optic neuritis is present; that at a later stage inflammation confined to the bulbar end of the nerve is found, and that later still the whole length of the nerve is involved. But that he does not say this, and that his statement is that the intra-cranial portion of the optic nerve was found normal, and that the intra-orbital parts altered, the inflammation being more marked near the eye than posteriorly; but this is not conclusive, for the normality of the intra-cranial portion of the nerves would not exclude the possibility of the inflammation found in the distal portion, having descended by the meninges of the nerve, which he admits were found inflamed. The inflammation of the sheath space appearing more intense near the eye, may be due to the sheath being looser at the anterior part of the nerve, and consequently allowing more free exudation. They have themselves examined some forty cases, and in every case in which papillitis was seen during life there were inflammatory changes in the optic nerves in their entirety. In a few instances the inflammation was confined to the proximal part of the nerve, and in these cases the papilla, both to the ophthalmoscope and to the microscope, showed no changes, death having occurred before the inflammation had time to travel down the nerves as far as the papillæ. In two specimens recently prepared by longitudinal section, inflammatory changes can be traced from the optic foramen to the disc.

[5] Ophth. Review, November, 1886.
[6] Ophth. Review, May, 1887.

CHOKED DISC (STAUUNGSPAPILLE) IN CEREBRAL HÆMORRHAGE.

Remak,[7] in an argumentative article upon the causation of choked disc in conjunction with cerebral hæmorrhage, gives five cases, the last observed by himself in which cerebral hæmorrhage was caused either by the rupture of an aneurism or a bloodvessel in the brain, and was accompanied by choked disc. The aneurism was generally situated at the bifurcation of the internal carotid, and the hæmorrhage was of a large amount. In two of the cases the nerves were very carefully examined. The conclusions drawn are, that the phenomenon of choked disc in these cases is due to the compression of the central vessels of the optic nerve, in their course through the intervaginal space, through the pressure of blood clotted there, thereby causing an arterial anæmia and venous congestion of the papilla and retina. Our author considers another cause of choked disc to be the interruption of the lymph stream flowing from the eye through the sheath of the optic nerve into the sub-dural space of the cranium. This condition of the lymph circulation as occurring with cerebral hæmorrhage, was shown by the œdema of the retina, the papilla, and the distention of the intervaginal space near the bulb by lymph.

[7] Berl. Klin. Wochen., Vol. 23, Nos. 48 and 49.

Clinical Memoranda.

A CASE OF BROW PRESENTATION CONVERTED INTO FACE; HIGH FORCEPS.[1]

BY EDWARD REYNOLDS, M.D.

M. S., married, native of England, II para. Labor began at 10 A. M., January 11th, but she did not send for medical assistance till 6.30 P. M., though the pains are said to have been severe all day. I was sent for first at 8.30 P. M., when the os was of the size of a dollar. The brow presented, M. R. P., and was so far extended that the mouth was within the os. The fœtal heart was strong and regular, the caput large and firm. Almost all the liquor amnii had drained away. The pelvis was roomy, but a mass of about

[1] Read, by invitation, before the Obstetrical Society of Boston, May 14, 1887.

the size of an orange could be felt by external palpation in the right wall of the uterus and just above the pelvic brim; this was not reached per vaginam.

It was evident that the presence of a fibroid in the lower uterine segment and on the right side, had thrown the occiput of a head presentation O. L. A. into the opposite (left) iliac fossa, and that its detention there had produced extension so soon as the upward retraction of the fibroid permitted the descent of the chin.

Feeling that the case was likely to prove difficult, I sent for Dr. C. M. Green in consultation. On his arrival the patient was etherized and a more thorough examination made. The fibroid was entirely above the head, and the adaptation between head and pelvis was easy.

It was decided to extend the head and make a tentative application of the forceps, and failing with them to have recourse to version.

The head was easily extended to a face, M. R. P., no rotation was attempted for fear of complicating the version, should that be necessary, and forceps were applied by Dr. Green, with the tips reversed, in the hope of promoting the fullest possible extension and consequent rotation. A few strong tractions produced no effect, the forceps were removed and version determined on.

As a preliminary, I attempted to flex the head, fearing that the prominent occiput of a face presentation might put too great a strain on the probably thin lower segment, during the passage of the hand; but finding that though the head was easily returned to its original position, any further flexion was impossible, I re-extended it and cautiously passed the hand upward in search of the obstacle, and was surprised to find that the neck of the child was firmly grasped by a spasmodic contraction ring.

All idea of version was now abandoned, the chin was easily rotated to the front (M. R. A.) by the hand, and the forceps reapplied by Dr. Green, who succeeded in delivering, after great difficulty, an eight pound female child. It was somewhat asphyxiated but was resuscitated without much difficulty.

Mother and child did well, and an examination two weeks later demonstrated the presence of an intramural fibroid, of about the size of an English walnut and situated just at the junction of the body and cervix. The mechanism of the case is to me most interesting; that a fibroid in the lower uterine segment should have jammed the occiput into the opposite iliac fossa, and then by its retraction have permitted extension to take place; that this extension should have delayed a normal head in a roomy pelvis until the exhausted uterus had closed down upon the neck in a constriction ring; that forceps to the face should have failed, when the chin was posterior, but succeeded after manual rotation of the chin to the front, are all points which are certainly full of practical interest.

A CASE OF DOUBLE DISLOCATION OF THE HIP.

BY O. J. PFEIFFER, M.D., DENVER, COL., *Chief Surgeon Union Pacific Railway Company.*

On April 3, 1885, Anna Lindstrom, aged eight years, a deaf-mute, while running along a narrow-gauge railroad track was overtaken, knocked down and run over by a switch engine.

When called to see the case, the legs seemed to be all tangled up, and as the child could bear no manipulation and could answer no questions, Dr. L. E. Lemen having been called in consultation, ether was administered by an assistant and the case was examined.

The left leg, perfectly straight, was rotated inwards so that the left foot lay flat upon its inner side; the left inner condyle of the knee pointed vertically downwards toward the plane of the bed and was resting upon it; the head of the left femur was felt directly outside of the tuberosity of the ischium.

On flexing the left leg to a right angle with the thigh, resting the leg upon my left forearm and moving the left knee upwards in a long vertical arc the head of the femur could be felt to describe a short arc outside and alongside of the tuberosity of the ischium.

The right hip was dislocated upon the dorsum and the right foot rotated inwards and drawn up lay upon and obliquely over the left instep.

The seventh, eighth and ninth ribs were broken at about the angle, and the left forehead and left side of the face were scratched and abraded, and filled with sand.

I remarked that, as dislocated hips were abundant, we would take one apiece, the ischiatic dislocation falling to my lot.

Both dislocations were reduced by Dr. Bigelow's method of manipulation, the chest after a deep inspiration was bound with a swathe and the face wounds cleaned and dressed. A towel was placed between the knees and they were tied together; the patient was placed upon her back, ice bags were applied to the hips, and in three weeks the child was up and about.

The child had been struck by the pushbar of the engine, knocked down head foremost, and in being passed over by the engine had been so gyrated that though she had fallen to the ground head foremost she was picked up with her head to the rear.

The distance between the rails was three feet, and the distance between the lowest part of the narrow-guage engine and the road-bed was seven inches.

It is remarkable that the child, having passed through so small a space, neither of the femora had been broken.

Reports of Societies.

AMERICAN OTOLOGICAL SOCIETY.[1]

Twentieth Annual Meeting.

Dr. Roosa also reported the history of a case of

suppuration of the tympanum occurring in a patient with bright's disease.

The patient, a woman aged forty-two years, was seen April 11, 1887. There was intense pain referred to the left ear which had existed since the day before. The hearing was much impaired as the result of a chronic non-suppurative inflammation of the middle ear. The bone conduction was better than the aerial. There was a watery discharge from the left auditory canal. Examination of the urine revealed the presence of Bright's disease, and the patient died some days later from œdema of the lungs. The point which the author made was that although this patient com-

[1] Concluded from page 90.

plained a good deal of the mastoid process, it was determined there was no lesion requiring operation, because of the absence of the characteristic symptom of tenderness at the apex. The case was regarded as one of tympanic trouble. The post mortem proved that there was no trouble with the mastoid, but acute suppuration of the tympanum occurring in a patient with chronic non-suppurative inflammation. The patient died from the Bright's disease.

DR. W. H. CARMALT, of New Haven. The author speaks of tenderness of the mastoid as though it were an almost infallible sign of suppuration in the mastoid cells. I would ask if we should expect to find this sign always?

DR. ROOSA. I think that this is a very strong test, although by no means infallible.

DR. EMIL GRUENING, of New York. I have this winter seen a number of cases of abscess. In two months I saw seven cases. In children, I open the abscess and invariably open the mastoid cells. I do this especially where the abscess has been preceded by otitis media purulenta. In four of the seven cases the mastoid cells were filled with pus. In this way thorough drainage was established, and all the patients recovered. I saw three cases of otitis media purulenta treated by insufflation of powder, leading to retention of secretions and death. All died of meningitis.

DR. B. E. FRYER, of Kansas City. I would ask whether the abscess and the affection of the ear were of the same duration?

DR. ROOSA. I think that the cerebral abscess was of long duration, months, possibly years. The abscess was undoubtedly induced by the tympanic disease.

DR. LUCIEN HOWE, of Buffalo. This case calls to mind one which I had in a child, where there was a history of recurring attacks of ear trouble with discharge. It was stated that good results had been obtained by the use of alum and boric acid. This was continued and the patient began to develop the typical signs of mastoid trouble. I etherized the child and removed the accumulation in the outer ear; all the symptoms then subsided.

DR. W. H. CARMALT, of New Haven. The fact that the cerebral abscess was surrounded by a thick membrane does not prove that it was of long duration. In a recent case of cerebral abscess resulting from an injury over the parietal bone, I attempted to reach the abscess by trephining, and passed my knife two and one-half inches in the direction where I supposed the abscess to be, but got no pus. The man died and I found an abscess in about the position I had passed the knife, but the wall was so thick that the pressure of the knife had squeezed the pus into the lateral ventricles, and death had been the result. In this case the operation was performed within two months of the original injury.

A paper entitled

DESQUAMATIVE INFLAMMATION OF THE MIDDLE EAR, WITH REMARKS,

by DR. O. D. POMEROY, of New York, was read by title and referred to the publication committee.

AN EFFICIENT POWDER BLOWER, WITH REMARKS ON THE USE OF POWDER IN THE TREATMENT OF DISEASES OF THE EAR,

by DR. E. E. HOLT, of Portland.

The powder blower consists of six or eight inches of small glass tubing to which is attached about fifteen inches of rubber tubing. The glass tube is plunged into the powder until a sufficient amount is introduced into it. The powder is gently drawn into the proximal end of the glass tube. The distal extremity is then placed in the speculum and the powder blown into the ear. By drawing the powder from the distal end before blowing it, it is carried *en masse* to the desired point and applied evenly to all parts. The instrument can be used with great facility.

After trying various powders, boric acid has been found the most efficient in the largest number of cases. One of the first cases in which the author had used this powder was one in which treatment for over two years had failed to cure a suppurative otitis media. Upon the application of the powdered boric acid, the discharge ceased and has not returned in a period of five years. Cleanliness, before using the powder, is essential. A comparison of cases of chronic suppurative otitis media treated with boric acid with those treated without this agent, led to the conclusion that while the discharge from the ear ceases much earlier when the powder is used, yet perforations in the drum head, heal less frequently.

DR. SAMUEL THEOBALD, of Baltimore, exhibited a powder blower similar to that of Dr. Holt, with the exception that the glass tube was substituted by a piece of goose-quill, and that the rubber tube was furnished with a mouth-piece consisting of a quill. The powder is introduced into the quill, and by shaking brought to the proximal extremity of the tube, the object being that it shall be thrown into the ear in the form of a cloud.

DR. W. W. SEELY, of Cincinnati. I have never seen any fit from blowing powders into the ear. I have only seen good results where the powder is packed into the canal. I, however, now rarely use the powder in any way. In these cases of suppuration there are three points to be observed, the eustachian tube should be kept open, the naso-pharynx should be treated as in any other case of inflammation of the middle ear, and the ear should be kept clean by the use of cotton probes.

DR. D. B. ST. JOHN ROOSA, of New York. I find the syringe the best means of cleaning the ear. I use powders with great circumspection. They are inferior to other methods of treatment.

DR. B. ALEXANDER RANDALL, of Philadelphia. In treating a number of cases of purulent discharge which had continued from five to fifteen years and in which the discharge had been pretty continuous and fetid. I have cleansed the canal and used boric acid, at first blowing it in lightly and finally filling the canal pretty full without packing. Within a few days the powder is dissolved and the discharge is usually diminished in quantity and the odor is lost. In eight out of every ten cases, that has been my experience. I have never seen any bad results.

DR. H. KNAPP, of New York. In acute cases of otorrhœa I use boracic acid as an antiseptic and cleansing powder. The patient is directed to cleanse the ear with the syringe three times a day. The powder is then introduced by means of a spoon until the canal is loosely filled. If the powder becomes moist the patient is directed to syringe the ear and renew the application. The majority of acute cases do not require any other treatment. In chronic cases I remove any

polypoid growths or any carious bone that may be present, and then use alcohol in fifty or sixty per cent. strength or absolute with sulpho-carbolate of zinc, and change that with nitrate of silver. I continue this treatment until the ear is dry and there is no discharge, and direct the patient to do nothing beyond using a light cotton plug to filter the air. I do nothing to the perforations. In one case I make an exception, and that is, when a perforation of moderate size has perfectly clear edges and remains in the same condition for weeks or months. Here I paste a small piece of sized paper over the perforation. In many cases the hearing is improved, and it seems to stimulate the healing of the perforation.

Dr. C. R. Agnew, of New York. In using fluid applications in the treatment of these cases I have employed a procedure which may be new to some of the members. After cleaning the ear in which I want to diffuse a fluid application as much as possible, I turn that ear uppermost and fill the external canal with the solution. Then I insert the nozzle of my Politzer apparatus into the external canal and make pressure, diffusing the liquid to all parts of the ear and making it appear in some cases in the pharynx. This sometimes may be of value.

Dr. Samuel Theobald. I think that both powders and solutions may be used with advantage. I have never seen any direct harm follow the use of boracic acid. In cases of suppuration with a small or moderate sized perforation, I have seen it dry up the discharge and leave the perforation larger than before its use. In such cases, I prefer solutions. In acute cases my practice is to always use solutions. I have used a fifteen grain solution with satisfaction. Where the drum membrane is practically gone, with a granular condition of the mucous membrane, the use of boracic acid powder is indicated. I have never found it necessary to pack the canal. One puff of the powder-blower fills the canal sufficiently full.

AFTERNOON SESSION.

The interesting discussion on the use of powders in the treatment of inflammation of the ear was continued.

Dr. H. Knapp, of New York. In acute suppurative otitis, which is certainly of bacterial origin, I use boric acid largely, on account of its drying properties. Suppuration, fermentation and decomposition do not take place where a part is kept dry. The ear is unfavorable for thorough drainage. As soon as the boric acid becomes moist, I have it removed. For acute cases, I know nothing better than this method of treatment.

Dr. Emil Gruening, of New York. I should like to make a few remarks with reference to three cases which I have already mentioned. In these cases I attributed the fatal result to the use of powder, which was boracic acid. The first case, that of a girl nine years of age, had otitis as a result of the use of the nasal douche. She was advised to use powders. In a few days she began to suffer with headache, dizziness, and intense tenderness on one side of the head, and slight puffiness in the region of the mastoid. I saw the patient after she had become comatose. I found the tympanic membrane bulging. It was injected. There was a slight tit-like projection, and in this there was an opening filled with powder. The pus which formed in the middle ear escaped through the eustachian tube. I made an opening in the membrane and cleaned it out carefully, and advised the family physician to open the mastoid. He did so, and found the mastoid cells filled with pus. The patient recovered consciousness, but died the next day from heart failure. The second case was that of a lady seventy years of age, who had otitis media with perforation. A powder was applied by a general physician, and a few hours later, she began to suffer with intense headache. Symptoms of meningitis appeared, and I was called in. I found a small opening in the membrane occluded with powder. I made an opening, but the patient died of meningitis. The third case was that of a child with long standing otitis media, and destruction of both membranes. This is the only case in which the powder had been packed. After the ears had been packed the child had repeated chills. I was called in, and removed the plugs, which were hard concrete masses and were taken away with difficulty. In spite of the removal of the powder the child died with all the symptoms of pyæmia.

Dr. D. B. St. John Roosa, of New York. I think that in a large percentage of cases acute inflammation of the middle ear is a self-limited affection. I try to secure cleanliness, and then dry the parts. I do not use dryness as a means of destroying of the germs or preventing them from acting, for I do not believe in the germ theory of disease. I think that germs are the products and not the causes of disease; I think that they retard recovery and therefore should be removed. In a large proportion of the acute cases the only treatment required is irrigation with warm water, pro re nata, and drying afterwards. I believe that the pus has a chemical quality apart from the presence of germs, which renders it corrosive. I therefore try to keep the parts as free from pus as possible.

Dr. Samuel Sexton, of New York. I think that it would help us in this discussion to consider the kind of cases in which boric acid is useful. Where there is a catarrhal inflammation of the atrium there is generally a profuse discharge which renders it difficult to apply the powder. In the cases referred to by Dr. Gruening, where there is a nipple-like formation, there is little discharge from the atrium. In these cases I make an early and free opening, and in this way I have avoided many of the consequences which are apt to follow in these cases. I make this opening with a stout tenotome. An opening is made through the membrana flaccida into the attic and through the integument of the upper wall, which usually becomes tumefied.

Dr. Samuel Theobald, of Baltimore. I would enter my protest against the view that the good effects of boric acid are due to its drying qualities. Some of my most brilliant results have been with the solution of boric acid. I have had cases in which the discharge has stopped after a single application of a saturated solution of boric acid.

Dr. J. A. Lippincott, of Pittsburg. I count boric acid a most valuable agent, and would not care to relinquish its use. There are, however, certain cases in which as a result of idiosyncracy on the part of the patient, the powder acts as an irritant. In the cases reported by Dr. Gruening, the fatal results are to be attributed to its improper use. It seems to me that the dangers of boric acid can be avoided by applying it in the form of a loose powder.

AN EXAMINATION OF FIFTEEN DEAF MUTES BY MEANS OF J. A. MALONEY'S OTOPHONE,

by CHARLES H. BURNETT, M.D., of Philadelphia.

The cases examined were pupils in the Pennsylvania Institution for the Deaf and Dumb, Philadelphia, and were between the ages of twelve and twenty-one years of age. The cases were divided into three classes: (1) congenital cases; (2) those losing their hearing between the ages of one and five years; (3) cases of profound hardness of hearing, but who still hear a little and can talk so-called semi-mutes.

The method of procedure was as follows: five vowels were written and pointed out at the time of their repetition three times in succession through the otophone by Mr. Maloney. The pupil was then told to indicate which vowel was spoken when Mr. Maloney made another repetition, care being taken to mix about in the tests. The words Philadelphia, Mississippi, Burlington, Missouri, boy, baby, papa and mamma were also used as tests, as well as the consonant B.

Hearing was excited in every instance; but fourteen of the fifteen cases gave ample evidence of hearing by their successful indications with the pointer as the different tests were repeated in their ears. It was noted that the results were not as good with the acquired cases as in the so-called congenital cases of deafness. This may be due to the fact that the process productive of the acquired form is more violent, involving the internal ear, as in spotted fever, than in congenital cases which generally give evidence of being simply catarrhal in their origin, and affect the middle ear but not the internal auditory organ. In the case of semi-mutes the results were especially satisfactory, as they heard nearly everything said to them, and returned intelligent answers to the questions. In such cases both the remaining hearing and the articulation could in all probability be improved by the systematic employment of such an instrument as the otophone as a means of instruction, the best results being obtainable where the instruction is begun early in life.

A paper with the same title was presented by Dr. F. B. Loring, of Washington. In the absence of the author, the paper was read by title.

DISCUSSION.

DR. WM. W. SEELY, of Cincinnati. I would ask whether the use of this instrument is recommended simply as a help to hearing, or as a therapeutic measure?

DR. C. H. BURNETT, of Philadelphia. The instrument seems to be an immediate help, and is also a valuable therapeutic measure. In the case of an extremely deaf person who was unable to hear a loud voice when the words were spoken close to the ear, and when, with an ordinary ear trumpet, could hear slightly, with this instrument he could hear fairly well from the first. After exercising for fifteen minutes, he was able to hear with closed eyes the unaided voice, the words being spoken a foot from the ear.

DRS. H. L. MORSE, of Boston, and B. ALEXANDER RANDALL presented a series of

PHOTOGRAPHIC ILLUSTRATIONS OF THE ANATOMY OF THE HUMAN EAR.

EXCISION OF THE OSSICLES OF THE DRUM OF THE EAR FOR CHRONIC PURULENT INFLAMMATION OF THE MIDDLE EAR TRACT,

by SAMUEL SEXTON, M.D., of New York.

Since bringing this subject to the attention of the Society, one year ago, the writer has continued the practice with satisfactory results, and presented some further observations based upon the records of nineteen operations. Of these nineteen cases, thirteen were females and six were males. Seven cases were between five and twelve years of age, eight were between thirteen and twenty years of age, and four were between twenty-three and forty years of age. The left ear was affected in eleven cases, the right in eight. In two cases both ears were the seat of suppurative inflammation, and in one there had been a mastoid abscess. In a majority of the cases there had been a history of recurrent aural catarrh for a long time attended with pain in the ear. There was much deafness and distressing acoustic phenomena, as autophonia and the like. The discharge was usually offensive. The general health of most of the patients was fair.

In all cases the drum-head was greatly impaired, the membrana vibrans being usually almost entirely gone; in most of the cases the membrana flaccida alone remained, perhaps with some portion of the membranum vibrans attached. Where any of the latter remained, it was liable to be found connected by bands with the inner wall of the tympanum. Sometimes a sinus of greater or less size opened through these diseased structures into the attic. The membrana flaccida together with the membranous and ligamentous attachment of the ossicles generally held the latter in place, even after the most extensive suppuration had long existed. Under these circumstances, drainage was extremely likely to be interfered with. The manubrium and cicatrical structures depending from the auditory plate were frequently found adherent to the inner wall of the tympanum, which the attic and antrum were lined with much thickened mucous membrane.

Some portion of the middle-ear tract was found to present more or less carious bony surface. In some instances, the ossicles themselves were carious or anchylosed. In several of the cases, the malleus handle was adherent to the inner wall of the drum. In some only a necrosed stump remained. In some the malleus and incus were adherent to each other. The incus was less liable to caries. The tapes cannot be so well examined as the other bones, since it is never removed. In some of the cases the operation was not resorted to until months or years after ordinary methods of treatment had been resorted to without success.

Without going into all the details of the operation, the author said that experience had shown that it may be performed much more rapidly than was at first supposed. The first operations required an hour, the later ones not more than fifteen minutes. To the protracted operation he attributed some disagreeable symptoms, such as nausea, which had not been presented by the later cases.

The remaining fragments of the drum-head are everywhere detached from the tympanic ring with a slender trowel-shaped knife. The malleus is then freed from its attachments, including the tensor tympani muscle by one or more sweeps of the knife. After all blood is removed the long process of the incus is separated from the stapes, if it be connected with that bone. The malleus handle is separated from the inner wall of the canal if it had been attached. The malleus handle is seized with stout forceps as high as possible and gradually detached and brought away. The re-

moval of the incus is more difficult, since its long process is liable to be swept from view. With a little patience, however, the bone may be soon found, and its removal is then a simple matter. When lying in the attic the scraper may be of service in bringing it down. In most instances he no longer divides the chorda tympani. In some cases where the ossicles were very adherent, considerable force was necessary to detach them, and in one instance this was impossible.

After the operation, the drum should be carefully dried with cotton and ten drops of a four per cent. solution of cocaine may be instilled. This is usually unnecessary. Usually, very little or no reaction follows the operation. In females it is important to defer operation until a little time after the menstrual period.

In the nineteen cases both malleus and incus were removed in ten. In one the body of the incus alone was removed. In six cases the malleus only was excised.

When possible, it is well to clear the drum of granulation tissue by treatment before the operation, since less hæmorrhage will then be encountered. The duration of treatment after the operation was, in five cases, one month; two, two months; in two, three months; in one six months, and of the other nine cases, three cases unimproved, one failed to continue treatment, and five are yet under observation. Nine cases progressed steadily to a complete cure; six were much improved; three were unimproved, and one failed to continue treatment. Many of these were dispensary patients under bad physical conditions. A marked improvement in hearing occurred in nearly all cases. In the cases noted as cured, the hearing was improved from 75 to 100 per cent., as far as testing with voice was concerned.

This marked improvement in hearing was unexpected, and gave rise to the conjecture that we may recommend the operation for deafness alone in many cases where the drum is obstructed by the results of chronic purulent inflammation, although all discharge may have ceased.

It might be expected that the taste might be affected by injury to the chorda tympani nerve. In a few this was the case for a short time, recovery, however, always took place. Reproduction of the drum-head never took place. Among the results of the operation may be mentioned the prevention of recurrent accumulations of purulent matter in the attic and antrum. The general health was nearly always improved. In two phthisical cases the cough was lessened in one and ceased in the other, while both gained much in weight. In children the effect on health was most marked.

The operation is performed with the patient upon the back and under ether narcosis. The electric light is almost essential. Magnifying lenses introduced into the speculum are of service. The after treatment consists in keeping down granulation tissue and aiding in the transformation of the mucous lesions into a dermoid condition. A meddlesome plan of treatment is undesirable. Where a large secreting tract exists a cure is sometimes almost impracticable. Alcohol has not been found useful in treating granulation tissue. Salicylic acid and boric acid have done good in a few cases. The peroxide of hydrogen has its use in certain cases. The persistence of discharge after operation may be expected in catarrhal and run-down subjects, especially where caries of the bone exists.

The specimens removed in these nineteen cases were presented.

DISCUSSION.

Dr. C. H. Burnett, of Philadelphia. I had the pleasure of seeing seven cases that had been operated on by Dr. Sexton. One was of fifteen months standing. There was no evidence of reproduction of the membrane. In the longer cases, there was no discharge. In the cases more recently operated on, there was still some discharge. In five of the seven cases, according to the statements of the patients, the hearing had been greatly improved.

EVENING SESSION.

A CASE OF RAPID AND ALMOST TOTAL LOSS OF HEARING IN A CHILD SEVEN YEARS OF AGE; INHERITED SYPHILIS APPARENTLY THE CAUSE; MARKED IMPROVEMENT FOLLOWING THE USE OF IODIDE OF POTASSIUM,

by Dr. A. H. Buck, of New York, was read by title.

Dr. Samuel Theobald, of Baltimore, reported a case of

SYPHILITIC DISEASE OF THE LABYRINTH,

exhibiting remarkable variations in the degree of deafness.

The patient was a man about thirty-four years of age, the subject of inherited syphilis. In one ear the deafness was nearly complete, and in this ear there was but little variation. In the other ear frequent and sudden relapses occurred, after the hearing on several occasions had been brought up almost to the normal standard. Within twenty-four hours the hearing would fall from the ability to distinguish words in a whisper at twenty inches, to a degree of deafness which would require the same words to be spoken in a loud voice. Iodide of potassium was given with but little effect, but decided benefit resulted from the administration of bichloride of mercury in combination with muriate of ammonia.

EXECUTIVE SESSION.

The following were elected to membership: Drs. J. C. Lundy, of Detroit; Wm. H. Hotchkiss, of New Haven; S. D. Risley, of Philadelphia, and David De Beck, of Cincinnati.

Officers for ensuing year: President, Dr. J. S. Prout, of Brooklyn; vice-president, Dr. George C. Harlan, of Philadelphia; secretary and treasurer, Dr. J. J. B. Vermyne, of New Bedford, Mass.; representatives to executive committee of Congress of American Physicians and Surgeons, Dr. C. R. Agnew, of New York, alternate Dr. Wm. H. Carmalt, of New Haven.

The next meeting of the Society will be at the Pequot House, New London, Conn., Tuesday, July 19, 1888.

— "Buck" Taylor, the "King of the Cowboys" who sustained a compound fracture of the thigh while in the discharge of his professional duties in connection with the Wild West Show, while a patient at the West London Hospital, had to be moved from the general ward to a private room from "the extraordinary and lavish concourse of ladies" who visited him.

AMERICAN OPHTHALMOLOGICAL SOCIETY.

TWENTY-THIRD ANNUAL MEETING.

THE twenty-third annual meeting of the American Ophthalmological Society was held at the Pequot House, New London, Conn., on Wednesday and Thursday, July 20 and 21, 1887.

WEDNESDAY.— FIRST DAY.— MORNING SESSION.

The meeting was called to order by the President, DR. WILLIAM F. NORRIS, of Philadelphia.

Under the head of unfinished business the following were elected to membership: Drs. J. B. Emerson, New York; H. F. Hansell, Philadelphia; J. O. Taussley, New York; M. Hayward Post, St. Louis, and Edmund C. Rivers, Denver, Col.

A memoir of Dr. Ezra Dyer, of Newport, R. I., one of the founders of the Society, was read by Dr. Hasket Derby, of Boston, and referred to the publication committee. The death of Dr. William S. Little, of Philadelphia, was also reported.

The first paper read was entitled

REPORT OF THIRTY-SIX CASES OF SIMPLE EXTRACTION OF CATARACT WITHOUT IRIDECTOMY,

by DR. C. S. BULL, of New York.

Of these thirty-six cases, twenty were males and sixteen females. In twenty-four the cataracts were hard and senile, in eleven they were traumatic and soft semi-soft, and in one case, it was of secondary origin. There were corneal maculæ in three cases; tremulous iris, in seven; old choroiditis in five; and irido-choroiditis in one. Careful antiseptic precautions were adopted in all the operations.

The operation was done with the patient lying in the bed he was to occupy after operation. The speculum was employed in every case. The knife was long and narrow, narrower than that of von Graefe. It was quickly passed across the anterior chamber, the flap measuring about two-fifths of the corneal circumference. Prolapse of the iris did not usually occur, but if it did, it was allowed to remain until the extrusion of the lens. The capsule was then opened by a quadrilateral incision, and by pressure the lens was caused to pass out of the corneal wound. If reduction of the iris did not occur spontaneously, it was reduced with a spatula. All soft lens matter was washed out with the antiseptic solution and one drop of a solution of eserine instilled of the strength of one grain to the ounce of a saturated solution of boracic acid. The lids are then closed and an antiseptic dressing applied. If the eye did well the bandage was not removed for two days, but the eserine solution was instilled twice daily under the bandage. At the end of two days the bandage was removed and the eye washed. The lids were not opened for four days unless there was some indication for it. If at the end of this time, the appearance was favorable, eserine was reinstilled, and the bandage applied for another day when it was removed altogether.

The healing process was usually favorable; there was no suppuration in any case. There were six cases of plastic iritis of a mild type and two cases of irido-cyclitis. In the first thirty cases there was no incarceration of the iris. In the last six cases in the treatment of which the same care was manifested, incarceration occurred in every instance. The average duration of the treatment was a little more than twenty days. A secondary operation, usually a needling or a laceration of the posterior capsule was required in twelve cases. Prolapse of the vitreous occurred in four cases, and dislocation of the lens downward in two cases. Eserine was not used after the healing of the cornea. The degree of acuteness of vision obtained was as follows: $\frac{20}{XXX}$ in two cases; $\frac{20}{XL}$ in eight cases; $\frac{20}{L}$ in eight cases; $\frac{20}{LXX}$ in ten cases; $\frac{20}{C}$ in five cases, and $\frac{20}{CC}$ in two cases. In one case the eye was blind before operation, as the result of irido cyclitis. The technique of the operation is more difficult than where iridectomy is performed. The knife must be passed rapidly in order to prevent injury to the iris. The extraction of the lens is more difficult, and the danger of prolapse of the vitreous is more imminent.

DISCUSSION.

DR. H. KNAPP, of New York. During the past year I have performed Pana's operation sixty-eight times. Following the operation there was mild iritis in three cases; severe iritis with closure of the pupil in one case; protrusion of the iris in three cases; incarceration of the iris without protrusion in two cases; capsulo-iritis in one case, and suppuration in one case. This was secondary to an old disease of the eye. In twenty-seven cases a secondary operation was performed. In one case I performed the operation in a man much addicted to drink. The operation was successful, but there was slight wrinkling of the capsule. In the fourth week I made a simple division of the capsule. For twenty-four hours there was not a trace of reaction. The following night he had an attack of acute iritis with dysentery, and the urine was loaded with albumen. The next day there was circumcorneal injection, and the ball was very hard. Eserine reduced the tension but did not contract the pupil. On the third day the ball was as hard as it is in any case of acute glaucoma. I then made an iridectomy and the patient recovered.

REPORT ON A SERIES OF ONE THOUSAND SUCCESSIVE CASES OF EXTRACTION OF CATARACT WITH IRIDECTOMY,

by DR. H. KNAPP, of New York.

These one thousand cases were operated on during the years from 1866 to 1886. A tabular statement was given, showing the results obtained in each series. V = $\frac{20}{CC}$ to $\frac{20}{XX}$ was considered a good result; V = $\frac{21}{CC}$ to $\frac{1}{CC}$, was considered a moderate result, and where V = less than $\frac{1}{CC}$, the case was regarded as a failure.

In the first series of cases, the method of extraction was by a very peripheric section more curved than linear, with the following results: good 70%; moderate 22%; failures 8%. Of the failures 3% were from suppuration. In the second series, a peripheric linear section was employed. Results, good 86%; moderate 12%; failures 2%, all from suppuration. In the third series, linear section was employed. Results, good 86%; moderate 9%, and failures 5%, 3% of which were due to suppuration. The fourth and fifth series were performed by peripheric linear section with removal of the anterior capsule. Results, good 82%; moderate 7.5%, and failures 11.5%, of which 8.5% were due to suppuration. In the sixth series in which peripheric linear incision with peripheric capsulotomy was performed, the results were, good

89%; moderate 1%, and failures 10%, of which 8% were due to suppuration. The seventh series was operated on by the same method, only the section was less peripheral. Results, good 88%; moderate 7%, and failures 5%, of which 2% were due to suppuration. The eighth series was operated on by circular marginal section, with peripheric capsulotomy and with antiseptic precautions. Results, good 90%; moderate 8%, and failures 2%, of which 1% was due to suppuration. The ninth and tenth series of cases were operated on in the same way with the following results; good 90.5%; moderate 5.5%; failures 4%, of which 3% were due to suppuration. The results obtained, taking the one thousand cases as a whole, were, good 85.2%; moderate 9%; failures 5.93%, of which 3.8% were due to suppuration.

DOES SUNSTROKE AFFECT THE SIGHT PERMANENTLY?

by DR. J. A. SPALDING, of Portland.

The author introduced the question of the permanent effects of insolation (or sunstroke) upon vision. So many pension claimants were now coming forward, asserting that they suffered from sunstroke and permanent loss of sight in the army, and finally became more or less blind, that it is quite desirable for the expert in examining such cases to be supported by greater authority than he is likely to discover in any text-books or accessible literature. In point of fact there has never been reported in the vast extent of ophthalmic literature but a single undeniable case in which sunstroke had been followed by permanent blindness, and only six others in which the eyes were ophthalmoscopically examined soon after the attack. In all of these optic neuritis was distinctly marked, and in several vision was reduced to a low degree; yet ultimately, all six recovered perfect vision without much, if any, treatment.

Two or three cases illustrative of the assertions of pension claimants were presented in the paper, and the precise reasons for granting or not granting a pension were reported in full. Judging from the history of these cases insolation had nothing whatever to do with the loss of sight; while from historical and scientific records it appears extremely doubtful whether the disease ever has any permanent effects on the sight.

The frequent allegations of patients "losing their sight during a sunstroke," or of "a dimness coming over their eyes," are simply descriptive of the incipient stage of unconsciousness and are untruthful in a scientific point of view. These recollections become in later years the basis of pension claimants' assertions that their vision was seriously affected by sunstroke.

Dr. Spalding expressed the opinion that these were false, and hoped that the members would support expert examiners against the insults of politicians and claimants' friends in refusing to grant pensions for asserted blindness fifteen or twenty years after a sunstroke.

A CASE OF PROBABLE QUININE AMAUROSIS,

by DR. D. B. ST. JOHN ROOSA, of New York.

The patient was a young lady who had been living in a malarious district. While in Washington she had an attack of intermittent fever. Some time after this she was seized with convulsions and unconsciousness. It was believed to be a case of malarial coma, and thirty grains of sulphate of quinine were administered by the rectum on four occasions. On the third day consciousness was restored, but she was then unable to distinguish light from darkness. The pupils were dilated. She had been taking quinine and iodide of potassium before I saw her, which was October 18, 1886. Vision was slightly recovered and she could count fingers at four feet. On ophthalmoscopic examination the optic papillæ were found small, the vessels very small, but no exudation was seen. Quinine three times a day with a hypodermic injection of strychnia was given. The dose of strychnia was gradually increased to 1.24 of a grain and kept at that for some time. Vision gradually improved. It was at first excentric, but by December 10th she had centric vision of $\frac{20}{LXX}$. The papillæ was still white and the vessels small. The treatment was continued. She returned to her home and now states that she can see almost as well as she ever could. The urine was tested in this case several times with negative results.

DISCUSSION.

DR. EMIL GRUENING, of New York. In the latter part of June I saw a lady, fifty years of age, who had been given thirty grains of quinine in one dose. When she awoke in the morning she was blind and deaf. She was deaf for about twelve hours and absolutely blind for twenty-four hours. I saw her about five days after the attack. The fundus was apparently perfectly normal in both eyes. Central vision was normal, but the field was much contracted in all directions. It does not seem to me that the ischæmia which has been described in the more severe cases, should necessarily be present in the lighter cases of quinine amaurosis.

CLINICAL CONTRIBUTIONS TO THE STUDY OF RING SCOTOMA,

by SWAN M. BURNETT, M.D., of Washington.

The speaker gave the histories in full of two cases of ring scotoma which he had followed for the space of two years. In one case there was a history of syphilis and in the other not; in both there was choroiditis with vitreous opacities. In one case there were no gross changes in the choroid, in the other the changes did not correspond with the defect in the visual field. In one case only one eye was affected, in the other the affection was binocular. In one case the trouble began as a typical right hemianopsia with left semi-annular scotoma. The central clear spot more or less oval in form, 10° to 20°, was never through all the changes diminished in size. All who have written on the subject (a full bibliography was appended to the paper) have placed the pathological process inside of the eye, though in none have the changes in the choroid, manifest under the microscope, been sufficient to warrant such a conclusion, and in none have the changes in the form of the visual field been followed so closely or so long as in these cases, eighteen diagrams of the fields at various times being exhibited. The course of the nerve-fibre in the tract chiasm and nerve, as demonstrated by Bunge, Lamelsoker, Leber, Vassius and others, particularly in the somewhat analogous condition of central scotoma which in nearly every instance coincided in form and size with the central clear space in these cases seems to justify the assumption that the fibres supplying the intermediate parts of the retina were hindered in their function either from a localized neuritis or by pressure of the adjoining parts.

DISCUSSION.

DR. HENRY D. NOYES, of New York. A young lady, aged seventeen, came to me complaining of pain and dimness of sight in one eye. The ophthalmoscope showed no material lesion, but with the perimetre I discovered a ring scotoma. There were no local lesions, no symptoms of brain trouble, and no evidence of hysteria. Further examination showed signs of orbital neuritis. I based this view chiefly on the fact that pressure of the globe backward elicited unquestionable pain. This continued for at least two weeks. The ring scotoma subsequently entirely disappeared, and vision was restored to the normal. I am satisfied that ring scotoma may have an ex-ocular origin. When we search for these cases more carefully I think that we shall find that they are not so extremely rare as has been supposed.

DR. C. S. BULL, of New York. Some time ago I reported a case which would come under the same category as those of Dr. Burnett. The patient, a man of thirty-six years of age, when two years of age, injured the right side of the skull by a fall. Vision of right eye was impaired, and a convergent squint followed. He could count fingers at two feet with the right eye. In 1878 he had a compound depressed fracture over the left parieto-occipital region of the skull. Trephining was resorted to. This was followed by convulsions which have since grown less marked. He noticed that he could not see through a part of the field of the left eye. The ophthalmoscope shows a neuro-retinitis of low grade in the left eye. The field was normal for twenty degrees around the point of fixation, then there was an irregular defect in the field for fifteen to twenty-five degrees all around, and outside of this the field was normal.

DR. W. F. MITTENDORF, of New York. Attention has recently been called to the fact that peripheral annular scotomata are often present in cases of chronic glaucoma. I have examined five or six cases of glaucoma with this in view, and have found it in one instance.

DR. O. F. WADSWORTH, of Boston. A case which I recently published seems to show that the lesion in these cases may be situated in the nerve. A young man, aged twenty-three, was run over by a heavy wagon, one wheel passing over his chest. I saw him forty-eight hours later. There was slight haziness of the retina and some slight, thin hæmorrhages in the right retina. There was a central scotoma. In a short time the scotoma resolved itself into a ring scotoma. This condition continued for at least two years afterwards. There was absolutely no ophthalmoscopic change to be detected.

THE SO-CALLED ORTHOPÆDIC TREATMENT OF PARALYSIS OF THE OCULAR MUSCLES,

by DR. CALEB S. BULL, of New York.

Reference was made to the fact that the use of galvanism in the treatment of paralysis of the ocular muscles was unsatisfactory, on account of the impossibility of localizing the current to the affected muscle. The method of Prof. Machelle was then described. In this plan the muscle is seized with fixation forceps and the eyeball moved backwards and forward in the direction of the ordinary action of the affected muscle. This procedure produces some pain and slight irritation. The pain is largely relieved by the use of cocaine. The speaker had employed this method in twenty-one cases of ocular paralysis, due to various causes. The paralysis was entirely cured in eight cases; partially relieved in seven cases, and in six cases the treatment was entirely valueless.

RECURRENT PARALYSIS OF THE MOTOR OCULI,

by DR. O. F. WADSWORTH, of Boston.

Pauline and Frances were twins, born of healthy parents. In June, 1874, when the twins were three years of age, they had scarlet fever, and this was followed by a discharge from the ear. In each case a slight discharge from one ear continued. In 1877 Frances began to complain of headache, which recurred frequently until three months later, when she had a convulsion. The convulsions were repeated. Six months after the first convulsion she complained that she could not see. Examination showed well-marked optic neuritis. The headache and convulsions gradually ceased, but she remained blind. She was again seen in 1879, and found to be in good health, with the exception of the blindness.

Pauline, after the attacks of scarlet fever in 1874, had headache recurring every month or so. On February 24, 1879, she was brought to the hospital with the history that she had suffered with daily pain in the head for two weeks; this was referred to the supra-orbital region. It would commence about noon, then intermit, recur again about five o'clock, and continue for several hours. There was vomiting on the first two days of the attack, and there was a slight discharge from the right ear. She was seen one month later. The headache had recurred every two or three days. There was then paralysis of all the branches of the right motor oculi nerve with ptosis and divergence of the right eye. By February, 1887, the headaches had diminished in frequency, and for the last few years she has had three or four attacks a year, the more severe being accompanied by ptosis and dilatation of the pupil. It was subsequently learned that with each severe attack there was a free discharge of ill-smelling fluid from the right ear. On May 1st, the right ear was examined and a polypus filling the meatus found and removed. The writer had been able to find only fifteen cases of this affection on record. Of this number four were males and eleven females. The period between the attacks was variable and irregular. In several instances there was evidently a persistence of a certain amount of paralysis between the attacks. This was noted in the case just described. There has been no instance of permanent relief, and three of the cases have terminated fatally.

As to the cause of the affection, the results of the autopsies point to a basal origin. In one case plastic exudation surrounded the right motor oculo-nerve; in another case the right oculo-motor nerve was pressed upon at its point of emergence from the crus cerebri, and in the third case there was a fibro-chondroma which had developed in such a way as to separate the fibres of the right oculo-motor nerve without destroying them. In the case reported, the speaker thought that there was an evident association of the paralysis with the chronic aural trouble.

HYPERÆMIA IN MUSCULAR INSUFFICIENCY,

by J. A. LIPPINCOTT, of Pittsburgh.

The speaker reported several cases of localized hyperæmia of the eye, which he thought were due to

weakness of the muscles. The grounds on which he based this view were the form and location of the spot of hyperæmia and its disappearance along with other evidences of the muscular insufficiency.

The Society then adjourned until eight o'clock in the evening.

EVENING SESSION.

CASES OF ACUTE PRIMARY GLAUCOMA; OF HEMORRHAGIC GLAUCOMA, AND OF SECONDARY GLAUCOMA,

by DR. W. F. NORRIS, of Philadelphia.

The first case reported was that of a married woman, aged fifty-two years, who was admitted to the Will's Eye Hospital with acute glaucoma of the left eye. The attack was of twelve days duration. Vision was much impaired. The right eye was entirely quiet, and presented a narrow iridectomy upwards. In August, 1875, a severe attack of glaucoma had suddenly occurred in the right eye, and on the fifth day, iridectomy had been performed. Since then the eye had given no trouble. When admitted to the hospital, the patient was in a feeble condition. She was put to bed, a leech applied and eserine instilled. The eye improved and became quieter. The cloudiness of the cornea and the other symptoms remaining, iridectomy was performed twenty-eight days from the commencement of the attack. A year later, she had a severe attack of pain not relieved by eserine, and sclerotomy was performed. The eye continued to give trouble from time to time, and it finally became necessary to enucleate it.

Primary Hemorrhagic Glaucoma. Miss B., age seventy years, was seen in February, 1867, with marked hemorrhagic retinitis and incipient cortical cataract. She stated that she had a sudden loss of vision two years previously. The present attack of loss of vision came on suddenly ten days before, when the patient was stooping. Examination showed numerous hemorrhages into the retina. One month later, the right eye was more cloudy, the tension increased, and there was some hemorrhage into the anterior chamber. Iridectomy was then performed. The wound did well until the fourth day, when there was a sudden attack of pain. On the ninth day, apparently without exciting cause this symptom recurred. After this there would be an exacerbation every few days. The eyeball was subsequently enucleated, the patient dying a year or two later with apoplexy.

Secondary Glaucoma. After successful operation for cataract. A man aged sixty-six, had been operated on for cataract in both eyes some time before coming under observation. This had been done in England, both operations having been successful. Some eighteen months later, the right eye had been operated on as a needle operation, and since then it had not been free from irritation. When seen, the right had lost the perception of light, and the left eye presented signs of sympathetic irritation. The right eye was enucleated, and this relieved the irritation in the left eye. The patient now sees fairly well.

A number of micro-photographs showing sections of the eyes removed in these cases were exhibited by means of a lantern.

DR. B. ALEXANDER RANDALL, presented the notes of a case of

SARCOMA OF THE EYE-LID,

simulating a meibomian cyst, occurring in a man about forty-one years of age, who came under observation in 1885, with the history of two operations in the previous three years for the removal of a cyst. The tumor had the position, size, color and apparent *fluctuation* of a chalazion, but a vague grayness, suggested pigmentation, and led to its total removal by a V-shaped incision through all the tissues of the lid. Section proved the tumor to be a solid encapsuled sarcoma of large spindle cells. The patient passed out of sight for two years, and then returned with recurrence very like the original, which had been treated in the interim as chalazion. The outer half of the lid had now to be removed, and the tumor was found to be of the same nature as before, and again encapsuled. The meibomian glands at both operations seemed to be entirely normal, and the tarsus was entirely uninvolved.

Dr. Randall also presented some of the ophthalmoscopic cases of Cilio-Retinal vessels, with the remark that they were far from rare, and that the occurrence of such an origin of even a principal artery or vein, supplying different quadrants of the retina, had come to notice. As to the origin of these vessels; in two cases they could be distinctly seen to join the network of the choroid. The reported cases examined anatomically have been seen to arise directly from a short ciliary vessel. Photo-micrographs of such a case in the collection of Dr. W. F. Norris, were shown.

Dr. Randall also called attention to the Hohlschnitt of von Jaeger in cataract extraction, as differing in no essential from the modified linear operation, except in the knife with which it is made. He asked attention to the knife, with the claim that with it almost all the usual modifications of the linear extraction could be made, but that no aqueous need be lost until the completion of the incision, and consequently that the cut could be made more safely and smoothly than was possible with the Graefe knife. As illustrative of the perfection of the healing, he demonstrated a photo-micrograph of a Hohlschnitt executed by von Jaeger himself, which he had prepared in Professor Alt's labratory about a year after the operation.

DISCUSSION.

DR. H. KNAPP, of New York. I have used Jaeger's knife, but I have not found the advantage which the author has claimed. I think that it is simply a modified small Baer's knife. In my experience it has been more difficult to pass a larger knife through the anterior chamber than it is to pass a Graefe knife. By practice, the section can be completed in one cut by the Graefe knife, but I do not consider this necessary.

DR. H. D. NOYES, of New York. I agree with the last speaker as to the greater facility in passing a narrow knife. A narrow Graefe knife gives better control of the movements necessary in making a proper section than any other knife which I have tried.

DR. S. THEOBALD, of Baltimore. It is probable that the greater facility in the use of the narrow knife over the triangular knife may be due to the fact that in using the latter, we are doing two things at once. We are attempting to pass it across the anterior chamber, and at the same time, to complete the section. With the Graefe knife we transfix the eye and then make the section.

(To be continued.

AMERICAN NEUROLOGICAL ASSOCIATION.

THIRTEENTH ANNUAL MEETING AT LONG BRANCH.

FIRST DAY, JULY 20, 1887.— MORNING SESSION.

DR. CHARLES K. MILLS, the retiring President, addressed the members present, remarking that heretofore the number of members of the Association had been limited to fifty, but by an amendment of the constitution the number had been extended to one hundred; which he thought would augument still further the usefulness of the Association. The speaker stated that he had received a letter from Benedict, of Paris, in reference to the brains of criminals and idiots, which he (Dr. Mills) had presented at the meeting last year, as Dr. Benedict feared he had been somewhat misunderstood in regard to his views upon the subject.

DR. LANDON CARTER GRAY, of Brooklyn, N. Y., the President of 1887 and 1888, was then presented, and made an address in which he drew attention to the steady march of science in neurology, contrasting the work done in this line by the American physicians with those of Europe and other countries, and showing that American physicians were in advance in forming societies for the advancement of the study of neurology and scientific discussion on the subject.

He stated that Germany had only one society, France had not any by that distinctive name, and it was only one year ago that one was formed in England. Italy, in the broad sense of the word, had none. The speaker called attention to the increased use of electricity in nervous disorders, and also the advantages afforded by the microscope in the study of the brain; drawing attention to the fact of chairs being established almost generally in our colleges for this branch of medicine, whereas in previous years a few lectures alone had been deemed sufficient.

DR. E. C. SPITZKA, of New York, read a paper

ON SOME POINTS REGARDING THERAPEUTICAL AND OTHER INJURIES OF THE BRAIN.

The speaker drew attention to the impunity with which portions of the brain could be removed, even without antisepsis, and no evil results follow; also the use of the trephine and the insertion of the trocar and hypodermic needle for the exploration of the brain in tumor or abscess; the methods of localization in case of disease of this organ.

He remarked that uniformly he had, during experiments upon dogs, been able to abuse the brain to an extent which some years ago would have been incredible; the doctor quoted a case in which a diagnosis was made of tumor of the brain, and in which the patient was trephined and an exploring needle inserted, but without result. The button of bone was replaced and the man made a good recovery from the operation, but died three months after; the autopsy proved the correctness of the former diagnosis. Under the microscope the prepared specimen at the seat of trephining showed three thin bluish lines where the needle had been inserted three months before, showing that it had not been inserted quite deep enough to reach the tumor. The button of bone was slightly movable, union not having taken place in its entire circumference. Unfortunately, the specimen had not been retained. From this he thought it evident that in young persons, even under discouraging circumstances, as wounding of the dura by the saw, parietal hernia and lifting of the button, the dura makes successful efforts to agglutimate the reinserted button and restore the integrity of the calcarium. The speaker considered there was less danger of hernia of the brain if a fair-sized-piece of bone were removed, than a small piece; quoting a case of Dr. Graeme Hammond to illustrate the statement. He drew attention to the fact that in experimenting on dog's brains by injecting poisonous or anti-septic fluid into this organ, that abscess or disease was not necessarily created at the seat where the injection was made.

In the experiments made, coarse and fine needles had been used and coarse substances injected with great impunity, in one instance ordinary street mud was used, but the dog recovered without any untoward symptoms. The dog was finally shot four months after because of *mange;* on examination of the hardened brain two masses of mud were found but no trace of the channel where the needles were inserted.

In two other dogs where the operation had been performed, the channel of the needle remained patent and the injected hemispheres had become atrophied; this he could not account for, but thought it valuable to bear in mind. During these experiments upon dogs he had found that the more the dog's brain is abused the more it can bear the operation; that is to say, the second trephining is less dangerous than the first, and a third less so than the second. In two cases he had found the growth dwarfed, and symptoms of imbecility; unfortunately, these two died during his absence from the city, owing to neglect.

From the writer's experience with the human and experimental pathology mentioned, he was induced to draw the following conclusions:

(1) That exploratory needles should never be introduced in the internal capsule, the contiguous ganglia, or the lateral ventricles, merely for exploratory purposes unaided by positive clinical evidence of the location of disease.

(2) That exposure of large surfaces are not feasible in persons with feeble vascular walls, owing to the danger of intra-cranial hæmorrhage.

(3) That buttons of bone re-inserted under aseptic precautions are, even in the event of non-union, entirely harmless.

(4) That in young persons buttons of bone may become re-united to the calvarium, even though perfect coaptation may not be assured.

He would add that he had very recently observed how desirable it is, in the event of trephining for the relief of cortical irritation, that on removal of the latter the button of bone be replaced.

DR. G. HAMMOND remarked that he thought in all cases of trephining the button of bone should be re-inserted. He quoted a successful case of Dr. Weir, in which a large piece of bone had been removed, and afterwards re-inserted with the most desirable results; the portion replaced having united firmly to the skull.

DR. LLOYD asked Dr. Spitza if he had ever punctured the brain of a child for hydrocephalus, as some time ago he had a patient brought to him for this purpose.

DR. MILLS thought it perfectly right in some cases to re-insert the button of bone, but at the same time the condition of the dura must necessarily guide us in the matter as to the extent of inflammation exhibited. He quoted one case in which the piece of bone removed was four by three inches, but there was a cen-

tral depression in the bone removed, and it was deemed necessary in order to re-insert the bone that this depressed portion be removed; the bone, however, was not replaced. In regard to the remark made by Dr. Spitzka as to the animal brain being more resistant after surviving the first operation, that had been corroborated by his own experience. The speaker mentioned a case in which the portion of bone removed was the largest he had seen, and also with considerable loss of blood, the patient made a good recovery from the operation, but afterwards died from pneumonia. He considered Dr. Spitzka's paper an exceedingly interesting one, and worthy of thorough discussion.

Dr. Spitzka, in closing the discussion, said that in those cases where it was not deemed advisable to reinsert the bone removed, there was a method, he believed due to McEwen, of sprinkling the exposed surface of the dura with bone-grafts. He thought that even should a bone-graft drop into the brain substance it would do harm, as the bone dust in trephining in some cases has not been entirely removed, but has caused no disturbance.

As to the question asked by Dr. Lloyd regarding puncture of the brain for hydrocephalus, he would not hesitate to insert a large trocar into the brain substance. Although he had not performed the operation, he had seen Dr. Detmold do so, and he had himself tapped large tumors of the brain with the most satisfactory results.

Dr. James J. Putnam, of Boston, read a paper on

NOTES OF A RARE CASE OF DYSTROPHY OF THE FACE AND HEAD.

The case, he remarked, was one probably of hyperostosis of the cranium, occurring in a young woman twenty-one years of age. Her health was apparently good, and there was no history of syphilis. Her mother, however, suffered with her head. The patient's first symptom was severe and intense pain in the head. Enlargement and protrusion of the eye and also of the head was first noticed about two years after the beginning of the headache. Three years ago her teeth began to fall out, and at the time the speaker saw her she had but one remaining tooth. Two years since a purulent discharge from the ears appeared and she could not distinguish the sound of a tuning-fork. Two years after the first symptom of the disease appeared she had a miscarriage, and one year later menstruation ceased. The writer presented photographs of the skull of the patient, showing both front and profile views, plainly exhibiting the extent to which the abnormal growth had reached, noticeably above the ears. There was œdema of the left eyelid, the eye extremely protruded, so that more than half the globe projected. There was no evidence of any paralysis of the nerves, except that the tongue moved slightly to one side; there is a well-defined opacity in the upper part of the lens of the left eye, which may be of importance.

Dr. Putnam then make a few remarks on a

SARCOMATOUS TUMOR OF THE BRAIN ATTACHED ON ONE SIDE TO THE SPHENOID BONE,

which had come under his observation.

The patient had had periodical attacks of headache for eighteen months previously, which he thought perhaps might be ascribed to this cause. During the time he had seen her she suffered from intense headache and neuritis, and then eventually a slight degree of facial paresis on the opposite side. In the last two months had complained of pain in two fingers of the left arm, the side of the tumor. At the autopsy, on examination of the brain, there was exhibited a shining black mass representing a flattened tumor; this contained blood with a small number of cysts, the brain being compressed in a remarkable manner, and in spite of this extreme compression no distinctive symptoms presented themselves until within the last two months before death. It is an interesting surgical question as to whether in this case an exploratory operation would not have been justified.

Dr. Spitzka remarked, that in one case where the numbness in the fingers occurred, as mentioned by Dr. Putnam, a tumor had been discovered in the brachial region. He also called attention to the specimen held in one of the English museums, in which the orbital cavities were almost entirely obliterated, owing to the excessive hyperostosis, which was of a somewhat spongy character.

Dr. Putnam said the autopsy was confined to the head alone; he thought Dr. Spitzka's remark just; as he could call to mind a case in which a tumor of the brain was pressing on both hemispheres, and it presented no symptoms but pain and numbness in one wrist; but in the case first mentioned the pain was not in the ulnar nerve, it was only in the two middle fingers; the speaker mentioned Charcot as making this observation many years ago.

(To be continued.)

Recent Literature.

Dose and Price Labels of all the Drugs and Preparations of the U. S. Pharmacopœia of 1880. With many unofficial articles that are frequently called for as medicines or used in the arts. For Pharmacists, Physicians, and Students. Second edition, By C. L. Lochman. Bethlehem, Pa.: 1887. $1.25. 200 pages.

The most appropriate use of such a work as this, is to cut out the labels from their pages, which are printed on one side only, and paste them on bottles or on other suitable places in a dispensary.

The labels have nothing on them which might not be found in a dispensatory or similar book, but the information they afford is reached quickly, and is of a practical nature, suggesting in many, if not all cases, essential points regarding the properties of the substances, and some of the precautions to be taken in their use.

Under hydrochlorate of apomorphine, for example, we are told that: "It is the salt of an artificial alkaloid prepared from morphine." Then follows its dose as an emetic and as an expectorant. "The solution should always be freshly made. Soluble in 6.8 parts of water, and in 50 of alcohol." The lettering and two exclamation points are intended to suggest that it is an active substance. A space is left for the prices.

The work seems to have been done with care, and the author must have devoted a good deal of time to its compilation. For a student's collection of drugs, it would be excellent.

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REPORT OF THE SEYBERT COMMISSION.

THE preliminary report of the Commission appointed by the University of Pennsylvania to investigate modern spiritualism, in accordance with the bequest of the late Henry Seybert, has lately been published. It will be remembered that Mr. Seybert, who, during his lifetime, was known as an ardent defender of modern spiritualism, left a bequest to the University of Pennsylvania to found a chair of philosophy in that University, and to the gift added a condition that the University should appoint a Commission to investigate the claims of modern spiritualism. A Commission of ten men was accordingly appointed, and it is safe to say that ten better names could hardly have been chosen. The medical profession is represented on the Commission by William Pepper, Joseph Leidy, George Koenig, James W. White, Calvin Knerr, and S. Weir Mitchell; Dr. Pepper, as Provost of the University, being Chairman, and George S. Fullerton, Secretary.

The Commission has spent several years in investigating phenomena appearing under the mediumship of the best exponents of modern spiritualism, whose services they could command at any reasonable price. Among these was the noted Henry Slade, whose performances in Germany, several years ago, so befooled Zoellner and three of his associates, Weber, Fechner, and Scheibner, and were the basis of a book subsequently published by Zoellner, which has had a very wide circulation, and is much cited by believers in spiritualism.

The American investigators, after putting these mediums to severe tests (in which, however, with due fairness, they were careful to comply with the usual "conditions,") and having matched Slade's performances with those of certain prestigiators (as the juggler, Kellar), and to the advantage of the latter, conclude that, as far as their studies and researches, now extending over more than three years, are concerned, the mediums have failed to make good their claims to anything more than consummate fraud and deception. In conclusion, they say: "We beg to express our regret that thus far we have not been cheered in our investigations by a single novel fact; but, undeterred by this discouragement, we trust to continue them with what thoroughness our future opportunities may allow, and with minds as sincerely and honestly open as heretofore to conviction."

In an appendix, are given full details of the interview of one of the members of the Commission with Professors Fechner, Scheibner, and Weber, the surviving colleagues of Professor Zoellner in his experiments with Dr. Henry Slade. There would seem to be evidence that Zoellner was of unsound mind at the time of those celebrated experiments; that Fechner was old and feeble and partially blind, and relied upon Zoellner's observations; that Scheibner was also affected with imperfect vision, and not entirely satisfied in his own mind as to the phenomena; and that Weber was advanced in age, and did not even recognize the disabilities of his associates. "No one of these men had ever had experiences of this sort before, nor was any one of them acquainted with the ordinary possibilities of deception."

There is also an interesting account of an investigation of the power of mediums to answer the questions contained in sealed envelopes, the result of which goes to show that these mediums are not too honest to resort to such tricks of opening and reading sealed letters as rendered famous that arch humbug of the days of Marcus Aurelius, Alexander, of Abonotichus, whose clever deceptions are recorded by Lucian. The marvels of "Materialization Séances" are made sufficiently ridiculous in the report of Rev. Horace Howard Furness, with which the book ends. On the whole, we should think that this little volume would be anything but pleasant reading to many who have committed themselves to this superstition; that it will have a wholesome, helpful effect on many others, we do not doubt.

THE DOCTRINES OF "CHRISTIAN SCIENCE" AND "MIND-CURE."

THE Rev. J. M. Buckley, D.D., a prominent preacher of the Methodist Episcopal Church, and at present editor of one of the most important of the denominational religious journals of this country, has published, from time to time, articles on the subjects of mind-reading and other psychopathic phenomena, to one of which we have before referred, characterized by a clearness of judgment and a robustness of common sense which have not always been found in gentlemen of his cloth in the treatment of such subjects. A few months ago, an article in the *Century* by this author treated clearly and dispassionately of the so-called "Faith-Healing and Kindred Phenomena," and in the July number of the same magazine is a paper by him on "Christian Science and Mind-Cure." The value of the latter paper consists in part in the fact that it contains many extracts from the writings of

the exponents of the systems themselves, who may be supposed to give the principles of the science with as much cogency as such statements are capable of receiving.

The extracts, which are numerous, indicate, on the part of their editor, an expenditure of time and study which few people are able to give to the subject, outside of those who are working it for what they can make out of it. We are reminded, in this connection, that it takes eight hundred dollars to hear from the very *pontifex maxima* herself, the thirty lectures in which the entire subject is covered, and whereby one may become an adept in this art.

There are teachers who will "fit" you for less money, even for one hundred dollars, and whomever you go to, the others assert you are not getting the real thing. Occasional suits for infringement of the copyright of one teacher by another tend to further the increase of various "schools" in the art, between which schools the vital point at issue, is whether the money shall go into the pocket of Mrs. A. or Miss B., in either case, the founder and chief member of the "school."

Among the fundamental principles of the mental healers, as expressed in their own words, space permits us but a few extracts:

"Anatomy, Physiology, Treatises on Health sustained by what is termed material Law on the husbandmen of sickness and disease . . . when there were fewer doctors and less thought was given to sanitary subjects, there were better constitutions and less disease." — "We are told that the simple food our forefathers ate assisted to make them healthy; but that is a mistake." — "Because the muscles of the blacksmith's arm are strongly developed, it does not follow that exercise did it, or that the arm less used must be fragile. If matter were the cause of action and muscles without the co-operation of mortal mind could lift the hammer and smite the nail, it might be thought true that hammering enlarges the muscles. But the trip-hammer is not increased in size by exercise. Why not, since muscles are as material as wood and iron?"

"Suppose the patient should appear to grow worse. This I term *chemicalization*. This the upheaval produced when Immortal Truth is destroying erroneous and mortal belief. Chemicalization brings sin and sickness to the surface, as in a fermenting fluid allowing impurities to pass away. Patients unfamiliar with the cause of this commotion and ignorant that it is a favorable omen, may be alarmed. If such is the case explain to them the law of this action."

Perhaps, however, the cream of the whole article is the following, which constitutes a portion of a prayer, printed *verbatim*, capitals and all, from a textbook on a "Mind-Cure," issued by the President of the "New York School of Primitive and Practical Christian Science," who states that his school will be free from "eccentricity, pretension, and fanaticism."

"PRAYER FOR A DYSPEPTIC."

"Holy Reality! We BELIEVE in thee that thou art EVERYWHERE present. We *really* believe it. Blessed Reality, we do not pretend to believe, think we believe, believe that we believe. WE BELIEVE. Believing that thou art everywhere present, we believe that Thou art in this patient's stomach, in every fibre, in every cell, in every atom, that Thou art the sole, only Reality of that stomach. Heavenly, Holy, Reality, we *will* not try to be such hypocrites and infidels as every day of our lives to affirm our faith in Thee and then immediately begin to tell how sick we are, forgetting that Thou art everything and that Thou art not sick, and, therefore, that nothing in this Universe was ever sick, is now sick or can be sick. Forgive us our sins in that we have this day talked about our backaches, that we have told our neighbors that our food hurts us, that we mentioned to a visitor that there was a lump in our stomach, that we wasted our valuable time which should have been spent in Thy service, in worrying for fear that our stomach should grow worse, in that we have disobeyed thy blessed law in thinking that some kind of medicine would help us. . . .

"Lord help us to believe that ALL Evil is utterly unreal; that it is silly to be sick, absurd to be ailing, wicked to be wailing, atheism and denial of God to say 'I am sick.' Help us to stoutly affirm with our hand in Your hand, with our eyes fixed on Thee, that we have no dyspepsia, that we never had Dyspepsia, that we will never have Dyspepsia, that there is no such thing, that there never was any such thing, that there never will be any such thing. Amen."

MEDICAL NOTES.

— A performance of "The Golden Legend," personally conducted by the composer, Sir Arthur Sullivan, and rendered by the most eminent musical talent in London, took place the 13th ult., in aid of Middlesex Hospital, and netted quite a sum for that institution.

— Dr. Russell, medical officer of Glasgow, is reported to have said, that, during the last ten years over a million of articles (from persons affected with every kind of contagion known in this country) have passed through the Glasgow laundry, and that he has never known a case of interchanged disease, although the women engaged in the laundry have occasionally suffered from handling the linen before the boiling process.

— Dr. Castro, of Italy, states (*Annal. d'hygiéne publ.*, ser. 3, t. xvii. pp. 48–50) that he recently had occasion to inquire into the presence of scars as the result of leech bites. He made thirty-seven experiments on different individuals, with the result that in several cases it was impossible to discover a scar by the naked eye. But in such cases the scar became evident after rubbing the skin with tincture of mustard, which reddens the skin surrounding the scar leaving the scar white.

— Dr. Van Harlingen, in the *Polyclinic*, answering the question, "What forms of skin diseases leave scars?" thus recapitulates his observations: "cysts, wens, the deeper forms of dermatitis, furuncle, anthrax herpes zoster, acne, ecthyma and tinea favosa may at times and under certain circumstances give rise to the formation of scars. Scrofuloderma and syphiloderma in some forms, the various forms of lupus, carcinoma and sarcoma almost inevitably lead to scarring. Another class of diseases which may indirectly, though not directly, give rise to scars through scratching are the pruriginous affections *par excellence*, that is, pruritus and eczema. These may be followed by cicatrices and other results of scratching when the lesions themselves might not leave anything which could be called a cicatrix."

— In the *Practitioner* for May, 1887, Mr. R. C. Holt published notes of five cases of meningitis occurring in children, in three of which cases success fol-

lowed the employment of an ointment containing ten per cent. of iodoform rubbed into the shaven scalp. In the three successful cases the bones of the head had not coalesced, and in all the cases the treatment was not commenced until the disease was well marked. The results appear to encourage the further trial of this treatment, and as soon as possible after the diagnosis is made.

— Dr. H. T. Griffith gives in the *Lancet* the result of 600 consecutive observations as to the position of the nipple in relation to the ribs. They were all taken, the patient being in the recumbent position. The *fourth space* is shown to be the average position in male and female adults, the range being from the third to the fifth rib in adult males, and from the third to fifth ribs in adult females. In children the range was the same as in adult females, but the average position was at the *fourth rib.*

—According to a Western contemporary, a church in Wisconsin was built under considerable stress for money, and it was found that the cellar was damp, no drain having been put in to remove the ground-water. A parishioner remedied the difficulty by giving the church a large number of champagne bottles from his own cellar. The bottoms were knocked deftly off and the necks shortened. The neck of one bottle was placed in the bottom of another and so until a drain was constructed, which has kept the church "extra dry" ever since. The same method is said to have been used in England.

— An unfortunate medical quarrel has been ventilated through the public press in Washington. The trouble as stated is as follows: Last spring Dr. Sowers, of Washington, criticised, through the newspapers, the President's manner of living, from a medical point of view. Surgeon-General Hamilton, of the Marine Hospital Service, preferred charges against Dr. Sowers before the Medical Association in Washington for unprofessional conduct. These charges were not sustained by the majority of the committee appointed to investigate Dr. Sowers' case, although a minority report was prepared convicting him of unprofessional conduct. Dr. Sowers has now filed charges with the Association against Dr. Hamilton. He states that Dr. Hamilton has violated two articles of the Association regulations in having shown to ex-Representative Hazelton the charges which he was about to prefer against Dr. Sowers last April. This was done, it was charged, with the full knowledge that Mr. Hazelton and his family were patients of Dr. Sowers, and was intended to lower him in the estimation of his patients.

— *Science* publishes the following set of test questions in "Physiology," given to the classes of boys and girls from eight to ten years of age in the public schools of a "prominent Eastern city."

1. How can it be proved that nicotine is a poison? 2. Why are cigarettes especially harmful? 3. Is alcohol a food? 4. What is the effect of disuse upon a muscle? 5. Under what names is opium sold? 6. Under what names is alcohol drunk? 7. What is the difference between a food and a poison? 8. Is anything gained by changing from one narcotic to another? 9. What is the effect of beer as a drink? 10. How does cheerfulness help the muscle? "This is the examination-paper at the end of the first year's elementary instruction in physiology. Of ten questions, eight relate to drinking and smoking: the physiology is a mere side issue. These children, who ought to have about as much knowledge of such matters as they should of the methods in vogue at the stock exchange, remarks our contemporary, are actually forced to learn by rote the details of human vice; and that, too, under the name of 'physiology,' the only science which they learn. Unconsciousness, *naïveté*, is the symbol of childhood. The fact that physiology, even if well taught, tends to destroy this trait, is the chief objection to its early study. Instruction such as the above implies, crushes the most valuable trait in the child, directs its curiosity to what is morbid, and forces into precocious development all its dangerous elements. Not enough that the newspaper and the dime novel proclaim in glaring colors the story of crime and sin: some notion of the perversity of human nature must be mixed with the food of babes."

— "Without the doses three times a day, the service would not go on; they unite the attention of doctor, patient, nurse, and friend in a periodic series of efforts, something not unlike those little yells a group of sailors make in turn when they are hauling hard on a cable, without which it appears the cable would never come along, though there is no apparent force in the noises they make. A doctor without physic is like a priest without a creed, or a poet without rhyme."

"Classification of Disease. — He cannot classify diseases, because what he knows of them is not comparable knowledge. For while one disease is a pain in the leg, and another a growth in the stomach, and another a spider in the skin, the classification of them is worse than mixing incompatible — it is mixing things indifferent. It is like trying to mix the solar spectrum and the key of C major with essence of peppermint."

"Advice gratis. Three kinds. Sympathetic — Let me help you. Apathetic — Do as you like. Antipathetic — Get thee and hang thyself."

"Knowledge is not power. Power arises by training in the use of knowledge. Consider the difference between training and teaching. The teacher carries over the things he knows, and fixes them in the learner's memory; the trainer takes what is in the memory, and converts it into an organ for the pupil's own use."— *Extracts from Pilocereus Senilis (an old man cactus) a series of papers by Walter Moxon, F.R.C.P.*

NEW YORK.

— During the second week of the extra summer service of the Board of Health 4,170 houses and 30,441 families were visited by the physicians of the

corps, who treated 1,036 cases of illness and gave 1,022 prescriptions. Eleven additions have been made to the corps, this bringing it up nearly to the desired number of fifty.

— In enforcing the new regulations requiring the removal to the hospital of all diphtheria cases which cannot be properly isolated at home, the sanitary authorities recently found it necessary to call in the aid of the police, in order to remove two children suffering from the disease, from a crowded house in Broome Street, as the father and friends of the patients attempted to interfere with the officers sent for the purpose.

— The father of a child which died of diphtheria and the undertaker who had charge of the funeral of the child have both been held in $300 bail, to await trial for violating the law relative to burials of those dying of contagious diseases. The arrests were made on the complaint of a sanitary inspector of the Board of Health, who had warned the parents of the sick child to keep it isolated and have a private funeral in case of its death. His warning was disregarded, however, and the body was exposed at the funeral in a room crowded with people. The case occurred in a tenement-district, and there were more than ten families living in the house. At its last meeting, the Board of Health ordered that a notice calling attention to the sections of the Sanitary Code in reference to persons dying from contagious disease should be printed on the back of all burial permits.

— At the Chambers Street Branch of the New York Hospital, a patient suffering from sunstroke who had a temperature of 108.8° and had had violent convulsions for twelve hours, was recently bled to the extent of eighteen ounces, with the effect, apparently, of saving his life; although twice afterward the temperature went up as high as 105°. A case very similar in character which was brought to the same hospital some time since, and in which bleeding was not resorted to, terminated fatally.

— During the first six months of the present year the number of deaths reported in Brooklyn was 7,938, an increase of 821 over the mortality in the corresponding period of 1886. The number of deaths from phthisis was 1,042, from pneumonia, 838, and from diphtheria, 394.

— The British ship *Arklow*, which arrived at Quarantine July 26th, after a passage of forty-four days from Rio de Janeiro, was found to have four cases of small-pox on board, the steward, two seamen, and a passenger. During the voyage three children had died of the disease, and were buried at sea. The steamship *Hipparchus*, which arrived on the 27th, from the same port, also had small-pox on board. The disease broke out soon after the vessel left Rio de Janeiro, and three passengers whose ages ranged from five to fifteen years, died during the voyage. Four other children suffering from it were removed to the small-pox hospital on North Brother's Island on the arrival of the ship at Quarantine.

— The Board of Health has adopted some new rules in regard to the work of sanitary inspectors in its service, and among them is one which requires that they must devote seven hours a day to the work except on Saturdays, Sundays and legal holidays. The working-hours are from 9 A. M., to 4 P. M., and during this time no private practice can be attended to. On Saturdays the hours of service are reduced to three. When not otherwise employed, they will be expected to make house-to-house visits among the tenements, and each inspector will be held responsible for the sanitary condition of his district; so that the special work of the Board of Health's summer corps of physicians will be maintained to a considerable extent throughout the year.

— The 22d Regiment, which went on duty at the State Camp at Peekskill, July 28th, introduced an innovation by marching the greater part of the distance from New York to the camp. They bivouacked over night on the road.

Miscellany.

TOMMASI-CRUDELI ON MALARIA.

The *Lancet*, July 9th, contains a review of the elaborate "note" recently submitted by Dr. Tommasi-Crudeli to the Royal Academy of the Lincei, entitled, "Stato attuale delle nostre Conoscenze sulle Natura della Malaria e sulla Bonifica dei Passi Malarici" ("On the present State of our Knowledge as to the Nature of Malaria, and as to the Reclamation of Malarious Countries.") The paper is a reply to the author's many critics, and his fair and courteous tone is quite as remarkable as the trenchant force of his dialectic. Without entering into the arguments with which he seeks to remove objections, or to add confirmation to his position, it appears that he has shown reasonable cause for adhering to the conclusions set forth in his now well-known treatise on the "Climate of Rome." As a working theory of the origin of malaria and its remedy, his doctrine still holds the field, while he can claim the independent investigations of pathologists like Mosso of Turin, as yet further reinforcing that doctrine. The concluding section of his paper refers to the treatment — the prophylaxis, rather — to be adopted in malarious countries, and he still holds to his belief in the preventive utility of arsenic, as "augmenting the mean resistance of the human organism to the invasion of the malarious ferment." Often enough he confesses this end is not obtained because in many cases the "specific resistance" has already sunk below the "mean resistance" either through defective or deleterious alimentation, or through long-continued depression, moral as well as vital, or through previous malarious attacks. Dr. Ricchi, medical supervisor of the South Italian Railways, and now of the Adriatic network, has, at the instance of Tommasi-Crudeli, set himself for some time to obviate these adverse conditions; and to aid the preventive virtue of the arsenic, he has prepared an aliment

which has been found materially to answer that end. It consists of a powder, impalpable, soluble in water, in coffee, in broth, and such like, prepared with the "sterilized" and desiccated blood of calves, and now known to commerce under the name of "Trefusia." The composition, quite accessible to the very poor, "has served," says Tommasi-Crudeli, "to render resistant to malaria, those whose organisms, already deteriorated, were not susceptible of protection by the arsenical treatment alone." He further reiterates his confidence in the decoction of lemon as a prophylactic and even as a remedy, in cases in which quinine and arsenic have failed. In testimony of this he adduces, the experience of Professor Colasanti and of Drs. Taussig and Ferraresi of Rome, and of Dr. Shakspeare of Philadelphia, all of whom have noticed the efficacy of the decoction in every stage of malarious disease.

Correspondence.

TEMPORA MUTANTUR.

MR. EDITOR,— The following examples of what in their time were deemed pernicious tamperings with food, and such as should be put down by the strong arm of the law, have I think, a certain interest as showing the changes in opinion wrought by time and increased knowledge.

Yours very truly, BENNETT F. DAVENPORT, M.D.

YEAST.—"About the end of the 17th century, the bakers of Paris began to substitute yeast for leaven. The practice was discovered and exclaimed against. The faculty of medicine in 1688, declared it prejudicial to the health, and many years elapsed before bakers were able to convince the public that bread raised by means of yeast is better than that fermented by leaven."— *Dr. T. Thompson's Chemistry of Organic Bodies*, Vegetables, p. 1029.

HOPS.—"They were at first considered a dangerous thing as most good things have been, and the planting of them was forbidden in the reign of Henry VI. In 1530, Henry VIII issued an order forbidding the servants of his household to add hops to his beer. Later than this the common council of London, petitioned Parliament against the use of hops, "in regard that they would spoil the taste of drinks, and endanger the people."— Page 220 of *Dr. E. Lankester's Lecture on Food, delivered at South Kensington Museum.*

EXCESSIVE SUMMER HEAT THE EXCITING CAUSE OF TUBERCULOSIS.

EVERGREEN, BALTIMORE COUNTY, MD., July 29, 1887.

MR. EDITOR,—It has long been a theory of mine, supported by facts too numerous to narrate, that excessive summer heat is the active producing cause of tuberculous phthisis pulmonaris, including of course, tubercle in whatever other structures or tissues it may be found, since it has been laid down as a law to which there is but one exception, that is, whenever tubercles exist in any part of the body, they may always be found in the lungs. The tubercular meningitis of childhood, characterized by the "*tâche meningite*" of Chomel and other well-known signs, furnishes in some instances the only exception to the universality of the foregoing law.

That heat plays the leading part in the etiology of tubercular phthisis, there is ample proof in the fact that true acute consumption, a disease lasting from fifteen to thirty days at most, from its commencement to the always fatal termination, occurs during or immediately following a heated term of greater or less duration. In the last fifty years, I have seen thirteen cases, the average duration of which was eighteen (18) days. In a majority of them the first sign noticed was anhelation from exercise or slight exertion of any sort. To the ear and hands the signs were negative, nothing being heard but an occasional sibilant or sonorous râle. In these cases hundreds of tubercles are deposited in every lobule of both lungs, no single part of the pulmonary parenchyma escaping. But, as a rule, when the nervous system is depressed by heat, tubercles are deposited most generally at the summit of one or both lungs. There they remain dormant until cold weather sets in, when the patient begins to cough, or in one out of five cases he may raise a little blood, which symptoms are noted as the beginning of the attack, when, in fact, the seed, giving rise to these symptoms, had lain dormant there ever since the heated term of the previous summer. And, therefore, the best way for those predisposed, through heredity or otherwise, to escape phthisis, is to avoid as far as practicable exposure to excessive heat.

Yours very truly, TH. H. BUCKLER, M.D.

AN "M.D." IN NINE MONTHS.

DENVER, COL., July 26, 1887.

MR. EDITOR,—In the "news" column of a recent number of the *Medical Record*, I read:—"The Medical Department of the University of ——— held its thirty-fourth annual commencement at ——— on July 15th. Fifty-three candidates received degrees."

Of the fifty-three candidates I am acquainted with one, and with his preparatory training; and, because it seems to me that the Medical Department referred to, is lax in its requirements, and not intending in any way to reflect upon the young man in question, whose zeal to become an M.D., may, perhaps, be commended, I give his history:

On the 7th of October, 1886, Mr. X, Matriculated at the Medical Department of the University of Denver. His previous training had been as a clerk in a drug store, and he possessed a certificate from a board of examiners authorizing him to practice pharmacy in the District of Columbia.

He attended the full course of lectures for the Session of 1886–87, at the Denver University; applied for examination in chemistry and materia medica, which he was permitted to do because of his training in pharmacy, and passed in these branches.

About the 25th of March, 1887, armed with a card stating that he had attended *one* lecture course, and a certificate of having passed a satisfactory examination in both materia medica and chemistry, he went East to attend the lecture course at the University of———, where he was graduated on July 15th. That is, starting upon his medical studies on the 7th of October, 1886 — on the 15th of July following he was born into the noble profession of medicine, and was recommended by the University, whose diploma he bears, to the public as one qualified to practice medicine.

Let me say right here, that this University is not a Western one, which, urged on by a desire to have a list of graduates and a body of Alumni, is willing to hasten on its labors; but it has already celebrated its thirty-fourth commencement. It is situated amongst the hills of New England, and it numbers among its Faculty men of reputation in the profession.

In these days when a suitable training in medicine is taken to mean the expenditure of years in preparation; when the profession are urging a system of legislative protection and State Boards are being organized on all hands; when ambitious students are not content with the advantages offered in this country, but must seek a foreign experience — surely no one will contend that a nine months training is adequate to the demand.

It does not seem to me that any responsibility can attach to the University of Denver in the case here cited. The young man had attended *one* full lecture course and was entitled to a certificate to that effect.

Protection to the people must come, and should be demanded, from those giving diplomas.

The University that granted this diploma professes to require for graduates (Medical Education and Medical Colleges in the United States and Canada, 1765–1885. Edited by the Illinois State Board of Health, p. 121): —

(1) Twenty-one years of age; (2) three years study; (3) two full courses of lectures in different years, of twenty weeks each; (4) good moral character; (5) satisfactory examination before the Faculty and State Medical Board of Examiners.

It is also stated that the lecture-course begins the first Thursday in March and continues twenty weeks.

Certainly, twenty weeks is none too long for a lecture-course, and it should not be abridged, as in the present case, four weeks, and still be counted as a full course.

To sum up the whole matter, the reason for my writing this communication is to call attention to a system that I think is faulty, objectionable, and which, in justice to the profession and the public, should be corrected. I have used the case cited simply as a caption to my article. I have known others, occurring at the same University, of a similar nature, though not quite so aggravated in degree. But if the system employed is pursued, there is no reason why instances like this one should not be multiplied indefinitely. Then any drug clerk in the country or any office boy to a reputable physician, can start upon a course of lectures at the Denver University, or at the Albany Medical College, or at the Long Island College Hospital, or at the Bellevue Hospital Medical College, or at a score of other medical colleges in this country, and after taking the regular winter course of lectures, he can go to the University of ——— and in nine months from the time of beginning his studies or ten months at the outside, he can come forth a full fledged M.D.

Instead of besieging legislative halls for legal enactments, let us first seek protection from those in our own ranks. Very truly yours, SAMUEL A. FISK, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 23, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	—	—	—	—	—	—	—
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	294	162	39.10	8.50	1.70	—	34.68
Boston	400,000	236	133	47.38	9.96	.84	1.68	30.66
New Orleans	242,750	101	29	4.95	13.86	—	.99	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	156	70	23.04	7.68	1.92	1.28	16.00
Pittsburgh	210,000	168	49	48.30	3.45	2.07	2.07	33.81
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	122	82	40.18	2.46	.82	—	36.90
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	45	16	33.33	6.66	3.33	7.14	20.00
Charleston	60,145	64	25	9.36	1.56	1.56	—	4.78
Portland	40,000	13	6	23.07	30.76	—	—	23.07
Worcester	68,383	29	15	41.40	6.90	—	—	41.40
Lowell	64,051	37	21	45.90	2.70	2.70	2.70	32.40
Cambridge	59,660	26	17	50.00	7.70	—	—	50.00
Fall River	56,863	52	35	65.68	9.60	—	—	65.68
Lynn	45,861	24	10	29.12	37.44	—	—	29.12
Lawrence	38,825	20	9	10.00	20.00	—	—	10.00
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	25	15	20.00	12.00	—	—	16.00
Somerville	29,992	14	8	64.26	—	7.14	—	49.98
Salem	28,084	13	6	30.76	—	—	—	30.76
Holyoke	27,894	10	8	70.00	10.00	—	—	60.00
Chelsea	25,709	13	10	61.52	—	—	—	61.52
Taunton	23,674	5	3	40.00	20.00	—	—	20.00
Haverhill	21,795	4	1	—	50.00	—	—	—
Gloucester	21,713	9	3	22.22	11.11	—	—	22.22
Brockton	20,783	4	3	—	—	—	—	—
Newton	19,759	4	1	25.00	25.00	—	—	25.00
Malden	16,407	—	0	—	—	—	—	—
Fitchburg	15,375	6	0	—	—	—	—	—
Waltham	14,609	6	2	33.33	—	—	—	33.33
Newburyport	13,716	7	3	42.84	—	—	—	42.84
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,507: under five years of age 742; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 511, consumption 122, lung diseases 48, diarrhœal diseases 422, whooping-cough nine, measles 12, cerebro-spinal meningitis 12, diphtheria and croup 12, typhoid fever 18, malarial fever 11, puerperal fever nine, scarlet fever six. From cerebro-spinal meningitis, District of Columbia and Milwaukee three each, Lowell two, Pittsburgh, Somerville, Holyoke and Taunton, one each. From measles, Boston four, Pittsburgh three, Baltimore two, District of Columbia, Lowell and New Bedford one each. From malarial fever, New Orleans four, Baltimore, District of Columbia and Nashville two each, Charleston one. From whooping-cough, Boston, six, Baltimore two, Nashville one. From puerperal fever, Pittsburgh seven, Nashville two. From scarlet fever, Pittsburgh four, Baltimore two.

In the 20 cities and greater towns of Massachusetts, with a population of 1,034,088 (population of the State 1,941,465) the total death-rate for the week was 27.41 against 26.37 and 27.12 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending July 2d, the death-rate was 19.6. Deaths reported 3,475: infants under one year of age 1,007; diarrhœa 267, measles 152, whooping-cough 149, scarlet fever 54, fever 27, diphtheria 22.

The death-rates ranged from 11.4 in Nottingham to 32.1 in Preston; Birmingham 17.9; Blackburn 23.2; Bradford 14.9; Hull 15.6; Leeds 19.7; Leicester 21.5; Liverpool 22.2; London 19.9; Manchester 24.0; Sheffield 19.3; Sunderland 13.3.

In Edinburgh 18.6; Glasgow 17.8; Dublin 26.6.

The meteorological record for the week ending July 23, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, July 16, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, . . 17	29.85	70.0	74.0	66.0	86.0	86.0	88.0	87.0	N.E.	S.E.	S.E.	5	13	3	O.	O.	O.	5	.06
Monday, . . 18	29.89	66.0	70.0	63.0	90.0	97.0	85.0	91.0	S.	E.	N.E.	7	18	6	O.	O.	O.	7	.04
Tuesday, . . 19	30.11	67.0	73.0	62.0	76.0	88.0	92.0	85.0	N.E.	E.	S.E.	4	8	3	O.	O.	O.		
Wednes., . 20	30.16	67.0	73.0	64.0	85.0	76.0	89.0	80.0	S.	E.	S.W.	4	9	10	O.	C.	C.		
Thursday, 21	30.08	66.0	73.0	61.0	84.0	76.0	85.0	82.0	S.W.	E.	S.	6	12	12	O.	O.	T.		
Friday, . . 22	29.92	69.0	76.0	65.0	90.0	98.0	88.0	92.0	S.E.	S.	S.	7	11	10	R.	O.	C.	6	1.07
Saturday, . 23	30.00	75.0	81.0	71.0	93.0	85.0	95.0	91.0	S.W.	S.W.	S.	12	11	8	O.	O.	O.	10	.85
Mean, the Week.	30.001	68.6	74.0	65.0				88.3										28	2.02

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 23, 1887, TO JULY 29, 1887.

MAGRUDER, D. L., colonel and surgeon. Granted leave of absence for one month, to take effect on or about August 10, 1887. S. O. 170, A. G. O., July 25, 1887.

Par. 13 S. O. 167, A. G. O., July 21, 1887, assigns Lieutenant Colonel A. Heger, surgeon, to duty as member of Army Retiring Board, convened at Governor's Island, New York Harbor, N. Y., vice Colonel Charles Sutherland, surgeon, hereby relieved.

CALDWELL, D. G., major and surgeon. Order relieving him from duty at Fort D. A. Russell, Wyo., and assigning him to duty at Fort Assinniboine, Mont., is revoked. S. O. 168, A. G. O., July 22, 1887.

CLEARY, P. J. A., major and surgeon. Ordered to Fort Assinniboine, Mont., instead of Fort D. A. Russell, Wyo. S. O. 168, A. G. O., July 22, 1887.

COWDREY, S. G., captain and assistant surgeon. Granted one month's leave of absence to take effect on or about July 24th. S. O. 79, Department of Texas, July 13, 1887.

BURTON, H. G., captain and assistant surgeon. Sick leave of absence extended three months. S. O. 171, A. G. O., July 26, 1887.

GARDNER, E. T., captain and assistant surgeon. Ordered for duty at Fort Reno, Ind. Ter. S. O. 170, A. G. O., July 25, 1887.

BLACK, C. S., first lieutenant and assistant surgeon. Ordered for duty as Post-Surgeon, Fort Bliss, Tex., during the absence on leave, of Capt. S. G. Cowdrey, assistant surgeon. S. O. 79, Department of Texas, July 13, 1887.

MCCAW, W. D., first lieutenant and assistant surgeon. Ordered for temporary duty at Fort Riley, Kans. S. O. 78, Department of Missouri, July 25, 1887.

OBITUARY.

OSCAR FITZWILLIAM FASSETT, M.D.

Dr. O. F. Fassett, of St. Albans, Vt., died July 22, after a lingering illness from cancer. He was born at Enosburg Falls, February 28, 1827. After passing through the public schools of his native village and the academy at Bakersfield, he chose the medical profession, and graduated with high honors at the Vermont Medical College at Woodstock in 1851. He subsequently took a course of medical studies in New York City, and commenced to practice medicine at East Berkshire, where he remained twelve years. He came to St. Albans in 1865, and here he has since continued in the discharge of his professional duties. He was eminent in his profession, and, as a physician and a gentleman, his reputation stood deservedly high throughout the State. He was the President of the Vermont Medical Society for two years, and took a deep interest in the organization.

BOOKS AND PAMPHLETS RECEIVED.

Massachusetts College of Pharmacy. Twenty-first Annual Catalogue, 1887–88.

Syphilis. By Jonathan Hutchinson, F.R.S., LL.D. With eight chromo lithographs. (Clinical Manuals for Practitioners and Students of Medicine.) Philadelphia: Lea, Brothers & Co.

Annual Announcement of Trinity Medical School, Toronto. Session 1887–8.

Recent Advances in Preventive Medicine. By George H. Rohé, M.D., of Baltimore, Md. Chicago, 1887. (Reprint.)

Thirty-Second Annual Report upon the Births, Marriages, and Deaths in the City of Providence, for the Year 1886. By Edwin M. Snow, M.D., City Registrar.

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Original Articles.

CARLSBAD.

BY HORATIO R. BIGELOW, M.D.

It appears at first sight a work of supererogation to add to that which is already of record, touching upon Carlsbad and upon disordered livers generally. Yet it seems to me that this little Bohemian village is far too little appreciated, and what has been said about it, and what has been written in its praise, have not exhausted the subject in any perceptible degree; they have only whetted the appetite, as it were, for more. I do not know to what extent I may impose upon the forbearance of the editor of this journal, neither can I guage the measure of charity possessed by its readers. But I must put both to the test, if I would do even the most limited justice to the subject. It smacks a little bit of the "meeting-house," and the "Cotton Mather" school, that I should divide my article into several heads, but I come righteously by certain characteristics of the Puritan, and the processes of heredity are overmastering. With this much as preface, I submit the following points for discussion:

I. Why I came to Carlsbad.

II. The springs of Carlsbad.

III. Diseases in which indicated. Cardialgia, ulcus ventriculi, catarrhal conditions of the stomach, dilatation of the stomach, chronic constipation, chronic intestinal catarrh, congestion of the liver, fatty liver, cirrhosis of the liver (first stage), polycholia, gallstones, splenic tumors, gravel, catarrh of the bladder, prostatic hypertrophy, anæmia, gout, adiposis, diabetes (?), etc. Some dermatological and gynæcological diseases.

IV. Contra-indications.

V. Modus operandi of the cure.

VI. Hygienic and dietic regulations.

VII. The baths.

VIII. The situation of Carlsbad; its environs, climate and approaches.

IX. Expenses, pensions, hotels, etc.

I. WHY I CAME TO CARLSBAD.

Upon the recommendation of Dr. Sänger, of Leipsic, who diagnosed a considerable enlargement of the liver in a member of my family, with some catarrhal condition of the gall ducts, conjoined to some old inflammatory deposits in the peritoneal cavity as a result of para and peri-metritis. The patient's complexion at all times more or less icterus, was at times, especially during the menstrual period, markedly icterode. The face was spotted here and there with brown plaques, always more pronounced on the forehead. To palpation the liver was hard and resisting. The lower lobe extended nearly three fingers breadth to the left of the middle line, and downward to within two fingers breadth of the crest of the ilium. There was one exquisitely sensitive spot in the middle line just above the umbilicus. There was faulty digestion, and a long train of aches and pains, depending upon many causes which I need not detail here. We left Leipsic at noon, March 15th, and as, during this season the regular through trains do not run, we did not arrive in Carlsbad until midnight, and then were greeted with a snow-storm which continued persistently for three or four days.

II. THE SPRINGS OF CARLSBAD.

Name.	Temperature. R.	F.	Name.	Temperature. R.	F.
1. The Sprudel	59.5°	166°	10. Schlossbrunn	43.5°	126°
2. Hygiea-Quelle			11. Marktbrunn	40°	122°
3. New Hygiea-Quelle			12. Kaiserbrunn	39°	120°
4. Bernhardsbrunn	53°	150°	13. Elisabethquelle	37.6°	116°
5. Curhausquelle	52°	147°	14. Hochbergerquelle	33°	106°
6. Neubrunn	50°	143°	15. Kaiser-Karl-Quelle	31°	101°
7. Felsenquelle	48°	138°	16. Russische Kronquelle	29°	96°
8. Theresienbrunn	48°	138°	17. Sprudelsäuerling	23°	85°
9. Mühlbrunn	45°	133°			

The Commissioners of the Government after a series of very careful analyses, demonstrated 41-42 of solid constituents in one pound (16 ounces) of Carlsbad water. Prof. Ragsky, in 1863, made the following analysis:

Solid Constituents Contained in 16 Fluid Ounces.	Sprudel.	Mühlbrunn.	Schlossbrunn.
Sulphate of potash	1.2564	1.7172	1.4645
Sulphate of soda	18.2160	17.9610	17.2455
Chloride of sodium	7.9156	7.8690	7.5282
Carbonate of soda	10.4593	10.8679	9.5620
Carbonate of lime	2.2870	2.0236	3.0658
Carbonate of magnesia	0.3532	0.2641	0.3870
Carbonate of protoxide of iron	0.0215	0.0230	0.0176
Carbonate of protoxide of manganese	0.0046	0.0053	0.0053
Carbonate of strontia	0.0061	0.0069	0.0046
Phosphate of aluminum	0.0030	0.0025	0.0023
Phosphate of lime	0.0015	0.0016	0.0030
Fluoride of potassium	0.0276	0.0268	0.0291
Siliceous earth	0.5590	0.6190	0.7365
Total of solid constituents	41.7090	41.3870	40.1523
Free carbonate acid in grains,	5.8670	7.3260	10.2940
Free carbonate acid in cubic inches.	11.8820	14.8370	20.6200

and Ludwig, of Vienna, in 1879, published this analysis made by himself:

10,000 Grammes of the Water Contain.	Sprudel.	Mühlbrunn.	Schlossbrunn.
Carbonate of protoxide of iron	0.030	0.028	0.001
Carbonate of protoxide of manganese	0.002	traces	traces
Carbonate of magnesia	1.665	1.613	1.615
Carbonate of lime	3.214	3.266	3.357
Carbonate of soda	12.980	12.700	12.279
Carbonate of strontia	0.004	0.004	0.004
Carbonate of lithia	0.123	0.118	0.136
Sulphate of potash	0.862	1.188	1.030
Sulphate of soda	24.053	23.941	23.158
Chloride of sodium	10.418	10.288	10.047
Fluoride of potassium	0.051	0.046	0.046
Borate of soda	0.040	0.029	0.039
Phosphate of lime	0.007	0.009	0.004
Siliceous earth	0.004	0.005	0.005
Silicic acid — anhydrate	0.715	0.735	0.703
Calcium, rubidium, bromine, iodine, arsenic, antimony, zinc, selen, thallium, formic acid	traces	traces	traces
Total of solid constituents	55.168	54.730	53.304
Carbonic acid, half combined	7.761	7.672	7.593
Carbonic acid, free	1.898	5.169	5.822

Small quantities of iodide of sodium, bromide of sodium, lithia, boracic acid, rubidium and calcium, are also found. All the surface waters of the Carlsbad region, including the river Tepl, penetrate the granite rocks and soil to great depths. They do this the more easily, owing to the disintegrated character of the granite formation. Carlsbad lies in what must have been a volcanic region. The geological formations, and the peculiar conformation of the land all point to this conclusion. It would require no imaginative deduction to relegate the present site of this town to the crater of an extinct volcano, or if not so, we should not be far amiss in asserting that it rested upon volcanic debris, thrown down by a volcano which has

been extinct for ages. In its downward course this surface water becomes impregnated with the granite constituents, which Göttl has shown to be soda, lime, potash, siliceous earth, aluminum, magnesia, iron, manganese, arsenic, chlorine, flourine, sulphur, sulphuric and phosphoric acid. From the soil, it becomes heavily charged with carbonic acid. Owing to the action of this acid, and a counter atmospheric pressure, it dissolves, both by chemical and physical action, the solid mineral and extracts the salts, which are held in solution by carbonic acid gas. Knowing that the temperature increases, as we go down into the earth, and having learned exactly, in just what ratio such increase occurs, it is not difficult to locate the depth of the basin which supplies the springs, beneath the earth's surface. This is estimated to be 8000 feet. As all of the Carlsbad springs contain almost identically the same ingredients, they must have one reservoir in common. The difference in temperature of course is due to the length of time taken to reach the surface. The spring which takes the most direct route, will manifest itself first, and will be the hottest. The heat which the surface waters draw from the strata in their descent, sets free the carbonic acid gas, and it is this strongly propelling force which forces them back as spouting springs. The whole face of the country, the nature of the springs, the intermittent character of the supply, and the influence of earthquakes, and active volcanoes at a great distance upon the amount of the water, seem to point to volcanic origin, beyond all question of a reasonable doubt. Eidmann and Göttl found electro-magnetic currents (negative) in some of the warmer springs — a fact without much significance, when we remember the constituents of the water. The bicarbonates, which are held in solution by the carbonic acid, become precipitated by exposure to the air, and encrust, with beautiful effect, everything with which they come in contact. The solid constituents of each spring are *about* the same. They all belong to the saline alkaline springs, and are like the "Glauber's salt waters" of Stubnya and Beitrich. Sulphate of soda, carbonate of soda, and chloride of sodium, are the chief ingredients. These of themselves are not wonderful as remedial agents. Any one can make an artificial solution at home, or can take the bottled imported water, or a dose of glaubers salt, or Dr. Kinnicutt's formula of 50 parts of sulphate of soda, 20 parts of bicarbonate of soda, and 10 parts of chloride of sodium, or sulphate of soda with sulphate of magnesia in Apollinaris water, as recommended by Jacobi, but the "Carlsbad Kur" will not follow any such line of treatment. It is not the glauber's alone, it is not the carbonic acid gas alone, it is not the temperature alone, it is not the diet and the exercise alone, but it is a combination of all under the direction of an intelligent physician which effects the results that have made Carlsbad so celebrated. A patient who is so determined upon getting well, as to make the journey here, will, ten chances to one, more religiously conform himself to doctor's orders than he ever did at home. There is, too, potentiality for good, in these waters taken at their natural temperature, with their proper admixture of carbonic acid. A potentiality which no imitation can possibly obtain, and which, even the bottled waters will fail to accomplish. Chemical combinations become changed, not only in their molecular formation, but in their therapeutic action, by the action of heat. Clinical evidence of this can be had here daily. Proof also is not wanting that cases in America, under the most intelligent handling, and favorable circumstances, failed to respond to a therapeutical system based upon a knowledge of the ingredients of the Carlsbad waters, to rebound, as if by magic, first to convalescence, and then to restored health, after a four or six weeks' course at Carlsbad. I have heard that at attempt will be made to establish a "Karlsbad Kur" at Atlantic City. I predict its failure. It is simply impossible to reproduce the waters.

III. DISEASES IN WHICH THESE WATERS ARE EFFICACIOUS.

Diabetes. There lately appeared in an Hungarian medical journal (an abstract of which is also to be found in a late number of the *London Lancet*) an article by a certain doctor in Karlsbad. He avers that he has treated over two thousand cases of diabetes successfully by using saccharine. Now this same doctor has only been in Karlsbad for two years, and during this time there have not been more than eight hundred to one thousand diabetic patients here. Dr. Grünberger or Dr. London, who have the best practices here, rarely see more than forty such patients during a year. Another point: The first intimation of saccharine that the author of this remarkable paper had, came from a physician whom he had summoned to attend his daughter, who was ill, and he it was who recommended saccharine to disguise the taste of quinine. There are doctors and doctors, and let him who comes to Karlsbad beware. To make both ends meet, the struggling wayfarer must bring himself into notice in some way, either by fair means or foul. I should consider any one fortunate who counted himself a patient of Dr. Grünberger, or Dr. London, or Dr. Kraus, or Dr. Neubauer. To the former I am under obligations for the most successful and intelligent handling of the patient, whose illness brought me to Carlsbad. His quick grasp of the situation, the accurate diagnosis born of an almost unequalled experience, his kind but firm demeanor stamp him at once as the courtly gentleman and reliable physician. Now, I do not quite see what effect Carlsbad waters have upon the sugar diathesis, and I am sure that Dr. Grünberger is also somewhat sceptical in this direction. Dr. Kraus does not share in this scepticism, for he writes: "The influence of Carlsbad mineral waters on diabetes is highly beneficial, according to the unanimous opinion of medical men in general, and of those practising in Carlsbad in particular, and is based on the experience of the last fifty years. In every case of diabetes, even of the greatest severity, a marked improvement in the desolate condition begins after a few day's time. . . . The question whether diabetes may be entirely cured by the Carlsbad mineral waters, or by some other remedies, remains undecided at present, and according to the experience hitherto attained, is not likely to be answered in the affirmative." He then cites two cases in his own practice, which he considered "as perfectly cured." Hufeland called Carlsbad "the great hospital for diabetes." Braun and Seegen both report cases which were alleviated. Leichtenstern says that the so-called cures are due to strict attention to anti-diabetic diet.

Many experiments have been made (P. Gultmann, Riess & Külz), showing that the "use of the Carlsbad

water has not the least power of diminishing the amount of sugar in the urine in diabetes mellitus." I see no reason to believe that the waters themselves can have the least possible influence in controlling the amount of sugar in the urine. We have no analogous data to support such a theory, and those who defend it, must know just how the change takes place. Carlsbad water *plus* Carlsbad rule will alleviate all but the very bad cases, but Carlsbad water *minus* restraint is *nil*. Still I am convinced that the very cases that do badly at home, that grow worse instead of better each month, would respond more vigorously to common sense rules in Carlsbad. The reasons are subjective and objective. The patient has faith that the long journey and the celebrated Carlsbad waters will benefit him, and he not only determines to do all in his power to profit by the experience, but he puts his system in the best condition possible for such an experiment. Then he obeys the doctor's strict injunctions more faithfully here than was his wont at home. He lives in the sunlight, he keeps good hours, his mind is free from strain, and his diet is regulated to a nicety. It is pure nonsense to talk about the curative value of saccharine. It is a useful adjuvant. It takes the place of sugar and supplies a want, but more than this *it is not*. Carlsbad is unquestionably a good place for diabetic patients because they learn to *obey*, and just in proportion as they faithfully observe the precepts taught, will their measure of well-being follow.

Adiposis. When I came to Carlsbad, I weighed between 186 and 190 pounds (American). As I am only five feet, six-and-one-half inches tall, this was too portly, even for a London alderman. Dr. Grünberger thought there might be a tendency to fatty degeneration of the heart, and advised the *Kur*. I began with two glasses (March 16th) of Marktbrunnen daily, to which was added, on March 20th, one glass of Mühlbrunn. This was never increased during the eight weeks of my cure. The water was sipped gradually; then, after an interval of fifteen minutes, the second glass was taken, and so the third. After that, a walk of from one to two hours, and then breakfast. A cup of tea or coffee (with milk and sugar), two rusks, and two soft-boiled eggs, then a climb of two or three hours, and home to dinner — a piece of rare meat and one vegetable, with an occasional glass of Hungarian wine. Then another long walk, followed by supper at seven, consisting of tea, rusks, and cold meats. I took a few warm and vapor baths, especially when in Berlin, to which city I was called upon business, being absent ten days. While away, I kept up my diet rules most strictly, but not being able to exercise as vigorously, I indulged somewhat in Turkish baths. Latterly, I have given up coffee, and take no milk in my tea. At first, the waters caused a natural, but rather active movement from the bowels; then, for two or three weeks, the discharges were more frequent (twice, and sometimes three times per day), and then came an interval of constipation. My weight fell as follows:

March 20th	84.200 kilogrammes	184.13 Pounds (American).	
March 27th	83.000 "	182.0 "	
April 4th	81.700 "	179.4 "	
April 10th	78.700 "	172.7 "	
April 17th	77.500 "	169.13 "	
April 24th	75.250 "	164.14 "	
April 27th	74.240 "	162.9 "	
April 30th	73.750 "	161.9 "	

I now weigh (May 26th) about 155 pounds with winter flannels. My weight, naked, at the Cur Haus bath-rooms was, on May 23d, 67 kilogrammes = 134 German pounds, or 148 American pounds. I exercise about three or four hours daily, and observe a rigorous self-denial in matters of diet. It will be seen that from March 4th to March 10th, I lost nearly a pound *per diem*, but during this time I am sure that I walked between twenty and twenty-five miles daily. At no time have I felt unpleasantly. At times, the more especially after hot baths, and sometimes in the early morning, I fancied that I was a little groggy in the legs. I have not been as sprightly upon setting out upon my walk as I might be; still these were natural symptoms, and soon wore off. It seems to me that I am better, stronger, and more free from headaches than I have been for years. I can make the longest and most trying walks without undue fatigue, and my mind grasps an idea more quickly, and can unravel a theory more satisfactorily than formerly. The share of the waters in this rôle must be considered as a small one. The slight purgative effect assists digestion, and, in this way, may contribute in some small way to the general result. The absorbents are stimulated, and the fatty deposits diminished, more, I think, by reason of the high temperature of the water. Clinicians hold that, absorbed by the blood, the waters remove the fat in subcutaneous areolar tissue and in other organs, but they do not give us any physiological proof of this. One of the latest works on this subject in German advocates most strongly the internal use of hot water as a means of reducing adipose. The salts may act indirectly by depriving the excess of adipose of its rich and elaborate nutrition, since the use of Carlsbad waters not only lessens the richness of the blood-supply, but it also changes the whole character of absorption.

Diseases of the Liver. (See Frerichs' work, and those of Oppolzer, Bamberger, Ducheck, and Fiedler, etc.) In *passive congestion* caused by emphysema, stagnation in the mesenteric vein, constipation, and other functional disorders of the abdominal viscera, *fatty liver*, the first stage of *cirrhotic liver*, *polycholia*, *catarrhal jaundice*, and, according to Leichtenstern, in *chronic gastro-intestinal hyperæmia and catarrh*, dependent on anatomical changes in the liver, these waters, by increasing peristaltic action, and "facilitating the flow of blood through the liver," are of the most pronounced service. "Their curative effects in catarrhal jaundice depend on the favorable influence they exert on catarrh of the duodenum, and removal of obstacles to the flow of bile caused by the swollen mucous membrane. The waters have no specific effect upon the bile itself, but merely render it thinner and more abundant, and increase its flow, as any other water would do." (Page.) But these waters certainly act in another way. *They change the condition of the blood*, regulating and increasing both venous and arterial circulation, and relieving the overweighted mesenteric vein. The changed blood-supply sets up altered nutrition, and this effect is intensified by the changes going on in the mucous membrane of the stomach and of the intestinal tract. Oppolzer relates the complete cure, in an Austrian officer of cavalry, of supposed carcinomatous tumor of the liver by the use of these waters.

Gall-stones. Page says (*Medical Record*, October 30, 1886): "According to Leichtenstern, it has been often proved 'that saline soda-waters, in public and private practice, as well as at renowned watering-

places, assist in the removal of gall-stones.' By some, this is attributed to the dissolving power of the water, which is supposed to saponify the cholesterine, so that the stone breaks up into detritus, though supposed alkalescence of the bile produced by the waters has not been proved. Moreover, those stones which have a covering of carbonate of lime cannot be thus affected. Seegen states that the method of cure in these cases is not known, and favors the idea of the waters being preventive, rather than curative, and agrees with Leichtenstern in the opinion that, owing to the increased flow and pressure of bile, and increased activity of the gall-bladder, due to general reflex peristalsis, a cure is effected by expulsion of the stones, instead of their being dissolved."

Dr. Kraus says: "There is no decided proof whatever to support the opinion that the beneficial results brought about by the use of the Carlsbad waters in these cases are due to any dissolving action on their part. I have repeatedly, and for some considerable time, exposed gall-stones to the action of hot Sprudel water (60° R. = 167° F.) without noticing any mechanical changes whatever; besides, it is, *a priori*, quite incomprehensible how the mineral water should act in a direct way on the concretions formed in the gall-bladder or the biliary ducts. On the other hand, the possibility of the bile itself acting in a destructive manner on the concretions, after becoming alkaline to a certain extent, cannot be denied altogether; at least, it is certain that we frequently meet with corroded concretions of a porous construction, and sometimes, even crumbled to pieces, in patients who have been drinking the waters for a considerable time. . . . At any rate, the disappearance of the stones is not due to their being dissolved, but it may safely be asserted that their elimination is caused by the mechanical action of the waters; their importance, moreover, is evidently shown by the thinner and normal condition of the bile showing itself during their use; thus the formation of fresh concretions is evidently prevented." The almost universally favorable results in these cases from drinking the waters depend upon the "flushing," as it were, of the gall-ducts, the regulation of the action of the bowels, and by restoring the bile to its normal consistency. I have seen many remarkable cases here, and have heard of scores of equal interest, all of which were entirely cured. I met, this season, a gentleman connected with the Northern Pacific Railroad, who was sent over last year by Dr. Loomis. He had suffered terribly for years. Last year, he remained seven weeks. Returned to New York, and up to April 15, 1887, he had but one attack, and that a slight one. I saw him a few days ago, just as he was arranging to return. He looked remarkably well, and told me that he did not remember when he had been in such exuberant health. Had I a patient afflicted with gall-stones, I would urge his immediate trip here, even at the cost of the greatest personal sacrifice. It pays to come. At first, the attacks of colic after taking the waters are severe and frequent, because the stones are being eliminated, and perhaps, incarcerated. Then comes a jaundice, more or less severe. In some cases, the patients grow worse and worse. They return home after four weeks, are seized with agonizing pain, pass a lot of stones, and go on to a perfect recovery.

(To be continued.)

UTERINE HÆMORRHAGE: A CONSIDERATION OF SOME OF THE LESS COMMON CAUSES AND THEIR TREATMENT.[1]

BY F. H. DAVENPORT, M.D.,
Assistant in Gynæcology, Harvard University.

HÆMORRHAGE from the uterus, whether menorrhagia or metrorhagia, may be, as regards its cause, either active or passive; that is, it may result, in the first place, from the presence of something in the cavity of the uterus which directly attracts blood, causing active congestion; or, in the second place, from obstruction to the return of the venous blood, causing passive congestion. The importance of carefully distinguishing these two forms cannot be too strongly insisted upon, inasmuch as the treatment will be radically different as one or the other cause predominates.

It may be broadly stated that active hæmorrhage is due to causes inside the uterus itself, while passive hæmorrhage is due to causes outside the organ. As an example of the first, a submucous membrane may be instanced, and of the second, pelvic cellulitis. It will be readily seen, however, that in not a few cases both classes of causes may be operative. For example, a thickening of one or both broad ligaments may so interfere with the circulation as to induce congestion of the uterine membrane, and consequent menorrhagia. The prolonged congestion may lead to proliferation of the tissues and to so-called hyperplastic endometritis, or the development of polypoid growths, which themselves may actively determine an unusual flow of blood. The general distinction may, however, be maintained, and our treatment, in the one case, should be mainly intra-uterine, and in the other, directed to conditions outside the organ. This applies, of course, only to radical treatment, for we are often driven by the alarming severity of the flow to temporarily, at least, resort to the most effectual means, regardless of the predisposing cause.

Most uterine hæmorrhages are intermittent, the periods of severe, and possibly alarming, flowing being followed by intervals of either complete cessation, or very nearly so. When the flow is at its maximum, little more can usually be done than to check it, reserving a more thorough examination to determine its cause for the interval of comparative quiescence.

It is certainly a mistake to neglect such an examination. If the hæmorrhage occurs only at the time of the menstrual period in a young girl, general hygienic and tonic treatment should be tried before resorting to a vaginal examination; but if it occurs in the intermenstrual period, whether the woman be married or single, and in any case in a married woman, its cause should be sought for by every means in our power. Too often the failure to do this in a case of beginning epithelioma, for instance, allows the favorable moment for the performance of a radical operation to slip by, and when the delayed examination is made, the disease is found to be so far advanced as to admit of only palliative treatment.

This caution applies particularly to hæmorrhages occurring between forty and fifty, or at the time the menopause is expected. Irregularities in the amount of the menstrual flow in women of that age excite little alarm, for they are considered by the women

[1] Read before the Section of Obstetrics and Gynæcology of the Suffolk District Medical Society, April 20, 1887.

themselves, and too often by the physician, as the natural accompaniment of the "change of life."

Certain statistics with regard to the comparative frequency of the various causes of uterine hæmorrhage, and the age at which they most frequently occur, will illustrate the importance of this warning. Dr. Sneguireff, of Moscow, has written a monograph on uterine hæmorrhage, in which he gives a table prepared from all the data which he could collect, which shows the following facts: By far the most frequent cause of hæmorrhage from the uterus is cancer, constituting twenty-five per cent., or a quarter of all the cases we meet with. The next most common cause is fibroid, nineteen per cent.; then metritis, ten per cent.; endometritis, eight per cent.; abortions and subinvolution, five per cent.; and twenty-two other less frequent causes, ranging from three per cent. to one per cent. each.

A second table gives the relative frequency of the different causes of uterine hæmorrhage at the different ages. From this, we see that nearly ninety per cent. of cases of hæmorrhage from cancer occur in women over thirty-five, and fifty-eight per cent. in those over forty-five; that nearly fifty per cent. of hæmorrhages from fibroids are in women over thirty-five, and twenty-five per cent. in those over forty-five, showing that nearly half of all cases of metrorrhagia that we meet occur in the years about the menopause, and are due to the two grave affections, cancer and fibroid. In striking contrast to these statistics, is the fact that less than one per cent. of such cases can be referred to the menopause as the sole cause; that is, where nothing else to account for it can be found.

Of especially grave import are irregular "flowing spells" occurring after the menopause is once established. No reluctance on the part of the patient to submitting to an examination should induce the attending physician to fail to insist upon its importance.

Another class of cases which is too often neglected is that where the menstrual flow is excessive. Many a woman is kept in a condition of enfeebled health from the monthly drain upon her system, in whose case a little care would so moderate the flow as to enable her to thoroughly recuperate in the intermenstrual period. I am convinced that there are cases, not a few, where the women are better off for not menstruating at all. They can ill afford to lose any blood, and if nature has not pointed out the true remedy by a state of amenorrhœa, any flow of blood should be looked upon as a hæmorrhage, and be treated as such. In such cases, rest in bed and frequent hot-water douches will often reduce the flow to a minimum, or stop it altogether.

On the other hand, it is often a difficult matter in cases where the menstrual flow is profuse, to decide whether it is excessive, and needs to be checked or not. I have a patient who has always flowed a great deal, using on an average thirty napkins, and passing numerous clots besides. When she was regaining her strength after an operation, I feared the drain upon her system was too much, and diminished the amount of the flow after the first three days, by ergot and hot water injections. But severe headaches, increased backache, and bearing down followed, and I became convinced that in her case this large amount was none too much. There must be a great difference in the blood-making capabilities of different women, otherwise we cannot account for so great a monthly loss of blood in one case being not only not followed by bad consequences, but even necessary to a comfortable degree of health, while a third of the amount in another woman is a severe drain, from which she does not recover in the intermenstrual period, but grows steadily weaker.

Hæmorrhage during menstruation, or menorrhagia, rarely calls for active local treatment at the time, as the amount of blood lost can usually be controlled by internal medication, rest in bed, and hot douches. Occasionally, however, the vaginal tampon is necessary. But a great deal can be accomplished by treatment during the intermenstrual period both in the way of relieving congestion by local measures, and particularly by regulating the habits and mode of life of the patient. I have several times seen severe menorrhagia in young girls who were studying too hard, and taking too little exercise, where removing them from school and from the excitements of city life, and insisting upon out-door exercise, with some ferruginous tonic has resulted in immediate diminution of the amount of blood lost. A vaginal examination is often not necessary in these cases. Where I have made one, I have usually found a small flabby anæmic uterus, cervix conical, and possibly anteflexed, and an absence of leucorrhœa. Here the bleeding seemed to be directly due to the atonic condition of the uterus.

By far the greater number of cases of hæmorrhage, both during the catamenia and in the interval, are associated with a congested, enlarged, and sensitive uterus, and there is considerable leucorrhœa when the bloody discharge ceases. Sometimes we find nothing but the above conditions on local examination, and are forced to interrogate other organs, at a distance, as heart, lungs, or kidneys, or to look for some morbid diathesis as a predisposing cause. In this connection some observations lately published in the *British Medical Journal*,[2] are of interest. In investigating some questions with regard to phthisis, Dr. Handford found confirmation of the following maxims:

First. Early or excessive menstruation is an important and common predisposing cause of phthisis.

Second. The female children of phthisical parents tend to menstruate unduly early and excessively.

In support of these views, in addition to some cases of his own, he quotes Dr. Grailly Hewitt, who says: "According to my experience, young women in whom there are signs of a tendency to, or an actual development of tubercle are very frequently the subjects of profuse menstruation, the cause being the defective and vitiated state of the blood."

It may be considered doubtful whether, as Dr. Handford states, menorrhagia is a *common* predisposing cause of phthisis, yet in view of these facts it certainly should be looked upon as a suspicious circumstance, when a child of phthisical parents flows early and excessively, and we should use all the means in our power to check it.

As a rule, the vaginal examination will reveal some definite cause for the increased congestion, and the consequent hæmorrhage, and this must be the object of our treatment. To enumerate the pathological changes which give rise to uterine congestion would be to go over pretty much the whole field of uterine disease. It may be of interest, however, to notice rather more in detail a few of the less common causes.

I have alluded above to atony of the uterus. I

[2] Article, Menstruation and Phthisis, January 22, 1887.

have occasionally found menorrhagia associated with a condition of anteflexion, usually of the neck, sometimes of both body and neck, in an anæmic woman, with flabby muscles, weak action of the heart, poor appetite and delicate digestion, and I have been rather at a loss to satisfactorily explain the logical sequence of events. I am inclined to agree with Grailly Hewitt in attributing the symptoms we find in these cases to malnutrition. He goes further than I would in considering malnutrition to be the most common cause of all uterine displacements, and their immediate results, but here I agree with him that the first factor of importance in these cases as an abnormal softening of the uterus due to too little food. When at the time of puberty the uterus develops, the body, which up to that time has been smaller than the cervix, fails to attain its proper size and remains small and flabby, while the cervix bends forward on its axis at the internal os, and in time becomes permanently fixed in a condition of anteflexion, long conical, and pointing in the axis of the vagina. In these cases the menorrhagia, which is, to be sure, often only relatively profuse, is, as has been pointed out before, due to atony, and may best be treated by general hygienic and tonic treatment. Perhaps a more common cause of uterine hæmorrhage, and one which is quite frequently overlooked, is retroflexion of the uterus, especially when bound down by adhesions. Here the interference with the circulation is more marked, so that in addition to a profuse menstrual discharge, there may be a slight but constant flow in the intermenstrual period. This often is hardly more than enough to necessitate the use of perhaps one napkin a day, and in some cases a profuse leucorrhœal discharge, at times brownish or tinged with blood, may be the only sign of congestion.

In the early stages the changes in the endometrium are very slight, but if the stasis be long continued, there may result hyperplasia of the lining membrane, which in turn becomes a secondary and even more active cause of hæmorrhage than the original displacement. If treatment, however, be directed to the condition of the endometrium, either by astringent applications or by curetting, though temporary benefit may be attained, yet the diseased condition is likely to reproduce itself as long as the organ is in its abnormal position.

Treatment to be effectual should be primarily directed to the misplacement, and as adhesions are generally present in these cases, packing the vagina regularly with glycerine cotton tampons is the method most likely to be followed by success. This form of treatment fulfils several indications. In the first place, it is in my judgment the surest and safest method of overcoming the adhesions and restoring the organ to its normal position; in the second place, it usually is effectual in controlling the hæmorrhage; and in the third place, the glycerine from its affinity for water depletes the tissues, and relieves congestion.

The following case will serve to illustrate this form of uterine hæmorrhage, and its treatment.

Mrs. S. was first seen January 25, 1886. She was twenty-five years old, married three and a half years, has had two children, the oldest two and a half, the youngest fifteen months. She nursed her children, and the first menstruation since the birth of the last child came on in July, six months previous to my seeing her. This was normal in amount. The next catamenia flow was a week over time (the delay as she thinks having been occasioned by her going in bathing on the day her menses were expected), and she flowed profusely for a week. The same thing occurred in September. In October and November there was some improvement. December 8th, the sickness returned, and from that time until I saw her, a period of six weeks, she had only short intervals of a few days respite. At times there were smart hæmorrhages, but naturally the flow was moderate, and the patient kept about most of the time. She suffered considerable pain in back and right side, and the constant drain was beginning to tell on her strength. When she was not flowing there was a good deal of leucorrhœal discharge. Bowels were usually constipated. On examination, I found an enlarged and congested cervical portion, pointing in the axis of the vagina, the uterine body behind, and apparently fixed by adhesions in a position of retroversion with slight flexion. She was then flowing considerably.

I first carefully curetted the uterus with a dull wire curette, and removed a small amount of hyperplastic mucous membrane, and then tamponed the vagina tightly with glycerine cotton. This failed to control the hæmorrhage completely, some blood finding its way through the packing by the next day, but the amount was decidedly diminished. I removed the tampon the second day, and this time added a uterine plug of iron cotton to the vagina packing, which was successful in checking the hæmorrhage. Hoping that the curetting would be all that was immediately necessary, and thinking it would be wiser to delay the reposition of the uterus until the patient was stronger, no further local treatment was given, and, in fact, there was no return of the hæmorrhage for three weeks.

It then came on, and before I was called she had lost a great deal of blood. As this corresponded to the time of the catamenia, efforts were at first directed towards modifying, rather than completely checking the flow. Ergot, ergot and hamamelis, and gallic acid were tried, and hot-water injections were given. The effect, however, was not what was desired, and a firm tampon of both uterus and vagina was resorted to, with good result. As it seemed evident that the ultimate cause was to be found in the displacement of the uterus, this time the systematic packing of the vagina was kept up during the intermenstrual period, and the uterus was already in a much better position by the time the next menstruation was expected. This, though more profuse than was natural, did not call for any interference, and before the next sickness the uterus was in normal position, and the menstruation was of the ordinary amount. There has been no trouble since.

There is a form of hæmorrhage which is not very common, coming on in the early months of pregnancy. The history of the few cases I have seen is this: Somewhere from the second to the fourth month, usually without warning, there is a sudden gush of bright blood. This may be repeated a few times, the whole amount of blood lost not being very great, and this is followed by a slight, but persistent, bloody discharge, which lasts for weeks. At this time it is rarely bright, fresh blood, but of a dirty, brownish color. Usually there is no pain, and the patient feels perfectly well.

In one case which came under my observation,

there was the history of there having been a fall from a carriage some three weeks previously, and I found, on examination, retroflexion of the pregnant uterus. The uterus was replaced bimanually, and held in position by a pessary, but, as the flowing persisted, she was kept in bed for some weeks, hot-water injections given three times a day, and at the end of six weeks it stopped, and pregnancy went on uninterruptedly to full term.

Many of these cases, if left untreated, and the patient allowed to go about and exercise as usual, would result in miscarriage. The hæmorrhage seems to be the result of congestion, and though the cause may not always be so apparent as it was in the case referred to, yet the rest should be as rigidly enjoined.

Hæmorrhage following miscarriage due to the presence of a portion of the placenta should be energetically attacked, by thoroughly emptying the uterus. If the miscarriage occurred between the second and fifth month, at which period of pregnancy the placenta is most likely to remain, I should not wait more than a few hours before taking measures to remove it. The dangers of delay are renewed hæmorrhage and septicæmia from decomposition, while the advantages of prompt action are that the cervix is usually so relaxed that the retained after-birth can be easily removed, and the patient is not in the weakened and exhausted condition which a continuance of the hæmorrhage or the onset of fever would occasion. In my experience, if the placenta does not all come away with, or soon after the fœtus, it will not come spontaneously, and I have usually found it adherent over a small area at the fundus, the free portion coming down in the cervix and protruding. This is deceptive, for it gives the impression that it is detached, but held in the narrow cervix, and hopes of its being spontaneously expelled are aroused, which are quite sure to be disappointed. The finger, placental forceps, or various scoops which have been devised should be vigorously used under ether, until all of the placenta possible has been removed, leaving a roughened, shreddy surface where it was adherent.

A few words as to the value of, and indications for, internal remedies: The ones most commonly used are ergot, gallic acid, hamamelis, hydrastis canadensis, and iron.

With ergot I have been disappointed, except in a few cases of fibroid during the time when the tumor seemed to be growing toward the interior; that is, changing from the interstitial to the submucous variety. When it had once got within the cavity and had become pedunculated, the ergot seemed to lose its effect. It has also proven of use in cases of subinvolution; but where the trouble is seated in the mucous membrane, as in cases of hyperplastic endometritis, for example, I have usually seen very little benefit, as regards the hæmorrhage, from its use.

Hamamelis alone, or with equal parts of ergot, I have also frequently given, but have been disappointed with the result. The mixture is exceedingly disagreeable to take, and has very little effect on the hæmorrhage.

With gallic acid I have been better pleased. Five to ten grains given in a wafer every three or four hours has often checked the flow, especially in cases where there is a great deal of passive congestion from some misplacement or inflammatory condition about the uterus.

A good deal has been written lately in favor of hydrastis, and especially in Germany, surprisingly good results have been claimed in cases of menorrhagia due to endometritis and other pathological conditions of the lining membrane of the uterus. I have tried it only in one case, and then with no apparent benefit. It deserves a more thorough trial.

I have alluded to iron in speaking of atony of the uterus, and have often found it of great value in young women whose only complaint is excessive menstruation, and in that rare class of cases, chlorosis with menorrhagia. The tonic effect of the iron seems to be all they need.

The subject of uterine hæmorrhage is so wide a one, that I have been rather embarrassed by the variety of aspects under which it might be considered. Many points of great interest have necessarily not been alluded to, and the consideration of those which have been touched upon has had to be brief. Still, some light may have been thrown on some of the more obscure causes of uterine hæmorrhage, and I trust that the discussion will add much more of interest to this familiar subject.

NOTES OF PROGRESS IN PHYSIOLOGY.

BY JOSEPH W. WARREN, M.D.,
Instructor in Physiology in the Harvard Medical School.

Unexpected but not altogether inexcusable hindrances have of late prevented that regularity and fulness in these reports which ought to have been observed by the different writers. There are, in consequence, some important extensions of knowledge calling for mention, which are no longer absolutely new to some, although they are not as yet generally familiar to those who do not have special opportunities to keep thoroughly posted in physiological matters. This consideration will, I trust, excuse such an aroma of antiquity as may be detected by delicate nostrils in this report.

THE MECHANISM OF DEGLUTITION.

Some interesting additions have been made in the past few years to our knowledge of deglutition. Formerly this act was described as a comparatively simple peristaltic movement by which the substance swallowed was carried along gradually through the œsophagus. It was said, for example, that "the normal process of swallowing is accomplished by a series of contractions, beginning at the fauces and ending at the stomach. Each portion of the mucous membrane receives in turn a stimulus from the contact of the food, followed by excitement of the corresponding muscle; so that the alimentary mass is carried rapidly downward by reflex action. Section of the pneumogastric nerves destroys sensibility and motive power in the œsophagus, and consequently interferes with deglutition."[1]

The movement seemed to begin by the action of the tongue in shoving the substance to be swallowed into the pharynx, assisted perhaps by some suction, whereupon the muscles of the pharynx and those of the œsophagus, by a succession of movements, would complete the transferrence of the bolus from the mouth to the stomach. It was also considered by some, that the force of gravity was a material aid. A number of researches carried on by Kronecker and his pupils (notably Meltzer), have radically changed this idea of the

[1] Dalton's Physiology, Seventh Edition, 1882, p. 487.

process and have shown it to be a most interesting and complicated proceeding.[2]

Several considerations serve to make it clear that a peristaltic movement of the ordinary slow and progressive character could not be the important factor in the act. When a swallow of a very cold liquid is taken, the impression of the cold arises in the stomach too soon to be explained by the peristaltic action of the œsophagus. It had also been observed in cases where caustic substances had been swallowed, that the corrosion occurred in spots or patches and not over the entire surface of the œsophagus, as would be expected were simple peristaltsis in play. As to any important part being played by gravity, it should be remembered that many animals swallow well and constantly against this force; and in the experiments with the human œsophagus, the experimenters found that they swallowed with equal speed uphill, that is, with the head down.

It became evident, then, that the important force in swallowing must be produced by the quick action of striped muscles. Falk had shown that with the act of swallowing, a marked rise of pressure occurs in the pharynx. He demonstrated this by slipping a flattened tube along the surface of the tongue, so that it lay below the soft palate. The external end of this tube was connected with a water manometer, which shows a pressure of at least twenty centimetres for each swallow. The new view of deglutition thus founded, was much extended and experimentally established by the ingenious and irksome experiments of Meltzer, made chiefly upon himself. Meltzer found that on auscultation of the stomach, or more exactly just to the left of the xiphoid process, when a liquid or soft mushy food is swallowed, two very different sounds may be heard. In some few cases a clear hissing sound, as though the liquid were squirted directly down into the stomach. This squirt sound (Durchspritzgeräusch) is heard immediately after the act of swallowing begins. Far more frequently, but by no means always, a quite different sound is heard as though air or a liquid were pressed slowly through a contracted sphincter. This squeeze sound (Durchpressgeräusch) occurs six to seven seconds later than the squirt sound. The two are not heard together, although occasionally a dull sound or a very slight squirting is followed later by a fairly clear squeeze sound. The squirt sound is heard most readily in cases with a disposition to vomiting or eructations, and is clearly not the normal condition. These sounds are an interesting confirmation of the earlier experiments of Meltzer, which must now occupy our attention.

[2] The most important and readily accessible articles are:
Falk (and Kronecker): Ueber d. Mechanismus der Schluckbewegung. Verh. d. Berl. physiol. Ges. 14, Mai 1880. Du Bois-Reymond's Archiv für Physiologie. 1880, 296.
Other short reports by Kronecker and Meltzer are to be found these Verhandlungen as given in the Archiv f. Physiologie, 1880, 299, 446; 1881, 465.
Kronecker and Meltzer: On the Propagation of Inhibitory Excitation in the Medulla Oblongata. Proc. Roy. Soc., xxxiii., 27.
Meltzer: Schluckgeräusche im Sercbiculus cordis und ihre physiologische Bedeutung. Centralbl. f. d. med. Wiss. 1883, 1.
Meltzer: Zu den Schluckgeräuschen. Berl. klin. Wochenschr. 1884, No. 30.
Kronecker: Die Schluckbewegung. Vortrag geh. in der Ges. für Heilkunde. Berlin, 1884, also in Deutsche med. Wochenschr. 1884, No. 16, 24.
Meltzer: Die Irradiationen des Schluckcentrum und ihre allgemeine Bedeutung. Arch. f. Physiol. 1883, 209.
Kronecker and Meltzer: Der Schluckmechanismus, seine Erregung und seine Hemmung. Arch. f. Physiol. Supplementband, 1883, 328.
Ewald: Ueber die Bedeutung des sog. zweiten Schluckgeräusches. Verh. d. Berl. Physiol. Ges. Arch. f. Physiol. 1886, 376.
Quincke: Ueber Luftschlucken und Schluckgeräusche. Arch. f. exp. Path. u. Pharm. 1887. xxii., 385.

At first, experiments were made by placing a recording apparatus in the œsophagus of a dog, and determining the speed with which the contraction passed along this organ. This method proved to be impracticable and Meltzer then made use of his own œsophagus. He found that he could introduce rubber tubes into his pharynx and œsophagus and, after some practice, retain them quite well. The use of cocaine would probably render a repetition of these experiments much pleasanter than Meltzer found them to be. The tubes carried little balloons of thin rubber which could be blown up when the end of the tube reached the part whose movements were to be noted. The open external ends of the tubes were connected with Marey drums, and thus a graphic representation of the time and character of the various movements of the œsophagus in swallowing was recorded upon a revolving cylinder. Having then one balloon lying in the pharynx, and so little distended as not to interfere with the respiration, the commencement of the swallow could be exactly noted. The balloon of the second sound was placed in the œsophagus at various depths. Whatever the position of the second or œsophagus balloon, it was found that swallowing of a liquid compressed it at almost the same instant as it did the balloon lying in the pharynx. Even the deepest attainable part of the œsophagus showed this movement after an interval not greater than one-tenth of a second. The movement has a sharp and quick beginning, like the rapid contraction of a striped muscle. In other words, a liquid is swallowed directly or squirted at once from the pharynx to the lower end of the œsophagus. This was also demonstrated by swallowing acids; it was found that a piece of litmus paper lying in the opening of the sound just above the diaphragm, and which could be easily drawn up inside the sound, was colored by the acid almost instantly, that is, long before a peristaltic movement could have carried the liquid to this point. Then, too, the compression of the balloons was greater for larger amounts of liquid, so that it was actually caused by the passage of the swallow. The movement of the pharynx balloon is really a double one, for the sharply ascending first portion is caught in the early part of its quick descent and transformed into a flatter curve, which falls off much more slowly. The explanation of this, as we shall see presently, is that, while the first movement of swallowing is short, sharp, and quick, as from the action of striated muscles sending the swallow through the entire œsophagus, there follows upon this in the pharynx the contraction of the constrictors, and the movement of this group of muscles begins to manifest the slow character of peristalsis, although the muscles are striped.

In the œsophagus, on the other hand, the rapid first movement is followed by a perfectly distinct second movement taking place after an interval which increases as the sound is shoved farther down. This second compression has a much more distinctly peristaltic character; the curve rises very gradually, has a long flat top and falls off slowly, behaving exactly as though caused by smooth muscles. The duration of this second peristaltic movement increases as the measurement is made in a lower part of the œsophagus. While there seems to be a gradual increase for each centimetre passed over, very marked differences are observed in several regions. It was found that the upper portion of Meltzer's œsophagus, about six cen-

timetres of it, compressed the balloon for two to two and five-tenths seconds; in a second division, about ten centimetres long, showed a wave of compression whose length was six to seven seconds; and in the third division, of rather uncertain length, the compression lasted nine to ten seconds. This is in general accord with those researches (Gillette), which have shown that the œsophagus may be considered to have three portions in which the muscles are striped, mixed, or altogether smooth. Not only do these three divisions show this peculiarity of the duration of contraction, but a similar difference is observable in the interval between this and the preliminary curve caused by the passing swallow. In the upper six centimetres of the œsophagus, the second curve begins for all points at nearly the same time, or about one and two-tenths seconds after the beginning of the first curve. At eight centimetres from the top of the œsophagus this interval is about three seconds and remains nearly the same for the entire second section. Measured at a point eighteen centimetres from the beginning, the interval becomes six seconds or slightly more, and increases very little for the remainder of the œsophagus; the third division. A moment's reflection will convince the reader that although the act of deglutition contains movements which have a peristaltic character, the act as a whole is really much different from ordinary peristalsis. The swallow is thrown down the gullet by a vigorous muscular contraction, after which the pharynx and the sections of the œsophagus contract in succession. Each division contracts after its peculiar interval, and remains contracted until the division below has taken up the movement, thus ensuring that all substances which have not passed on shall be pushed downward, the path upward being completely shut off. The peculiarity of contraction in each segment is due to its structure, the succession depends upon the nervous system.

Meltzer was unable to put a balloon lower than a point about two centimetres above his diaphragm and obtain legible curves. The action of the cardia could not, therefore, be studied by this method. In the rabbit, it is easy to expose the cardia and watch it. Its normal condition appears to be one of complete rest. Irritation of the superior laryngeals sets up the action, and in about two seconds the cardia is seen to contract and to roll inwards into the stomach. The cardia behaves, then, as a section of the deglutitive tract, only the movements here occur much more rapidly than in man. This behavior of the cardia remains the same as to character and time, even though the cardia be cut away from the rest of the œsophagus. The movement, then, is not due to simple muscular continuity, and the cardia has the same independence which Mosso had shown for various segments of the œsophagus. When, however, the vagi are cut, the stimulation which causes the movements above is not followed by any action of the cardia.

The auscultation of the process of deglutition, then, admits of the following interpretation: When the swallow of liquid or of a semi-liquid mass is thrown down the gullet, it stops in the neighborhood of the cardia, which is normally closed. If, however, its muscular tonus is faulty, the liquid may be thrown at once into the stomach, and the squirt-sound is heard almost immediately after the movement of the larynx, which indicates the beginning of the swallow. Meltzer found an interesting confirmation of this view in the circumstance that those persons who had a good squirt-sound lost it when appropriate treatment had improved the closure of the cardia, and lessened their tendency to vomit easily. Normally, however, the swallowed material is retained before the cardia, until, in due time, the contraction of the lowest division of the œsophagus pushes the mass through the orifice; this takes place from six to seven seconds after the swallowing begins, and, therefore, the squeeze-sound is heard after this interval, and not immediately, as the squirt-sound is. Any one who has ever watched a "beer duel," or participated in one, will appreciate this difference in the behavior of the cardia.

The question is now naturally suggested as to what combination of muscles produces the throw of the swallow through the entire œsophagus. Various considerations and experiments make it evident that mylohyoids are the chief factor in this movement. It cannot well be attributed to the constrictors of the pharynx. The position and relations of the superior constrictor seem to preclude its action, and the middle and lower constrictors are apparently too feeble to cause so vigorous a movement. Moreover, Meltzer cut these muscles, in dogs, and found the act of swallowing unaffected, although the effectual closure of the glottis appears to have been hindered. The constrictors, then, are reserve muscles which come in to aid and complete the first movement, but do not cause it. It is, also, not easy to see what muscles of the tongue itself should do much more than to press the tip of the tongue against the hard palate. The movement which must be made is the lifting up of the middle of the tongue, and this neither the muscles of the tongue proper, nor any of the associated muscles, except the mylohyoids, seem to be able to do.

The palato-glossus is absent in many animals which swallow well, and the styloglossus may be cut in the dog with no alteration of the movement. The view that the mylohyoids play an important part in the process is as old as Magendie, and had been accepted by some other physiologists, although the true nature of the movement was not apprehended. Meltzer had cut the *nn. mylohyoidei* in a dog, and found his ability to swallow solids and liquids very much lessened. He learned rapidly to snap at food in such a way as to carry it at once into the pharynx, but had especial difficulty in drinking. Some muscles which are supplied by the *n. hypoglossus* are also essential for the act, and these seem to be the longitudinal muscle of the tongue (pressing the tongue against the palate) and the hyoglossus. The activity of the latter, as well as of the mylohyoids, is easily accessible to demonstration with the fingers. Meltzer then details the first part of the act of deglutition in these words: "By pressing the tip of the tongue on the palate, the exit forwards is shut off; then the mylohyoids contract, so that the mass to be swallowed is put under high pressure and forced in the direction of least resistance, that is, backwards. Almost at the same time the *mm. hyoglossi* also begin contracting and, especially those portions which are attached to the cornua of the hyoid, cause the free surface of the tongue, which at rest looks upwards and backwards, to move backwards and downwards upon the epiglottis, and close it mechanically. The rapid narrowing of the space between the mylohyoids and the palate which is thus brought about also raises the pressure there rapidly.

This effect is increased by the pull of the *mm. hyoglossi*, which gives the tongue a backward and downward movement. Thus liquids and soft foods are squirted down the entire pathway to the stomach before contractions of the pharyngeal or œsophageal muscles can manifest themselves. Fragments which happen to remain in the pharynx are sent down later by the succeeding contraction of the constrictors and with a slowness peculiar to these muscles."

The nervous relations of the different portions of the path are very interesting. We must suppose that the innervation is controlled by six groups of ganglion cells, arranged in a row. The first group gets its stimulus from the periphery, and communicates its signals to the others in turn, these having no sensory communication with the outside world, except through the first group, but each group has motor fibres for the muscles which it controls. In each group of ganglion cells, the movement, although probably progressive, is very rapid, while the passage of the signal from group to group is slow, and grows slower as we get further from the first. Only the third group occupies a peculiar position, and has some sensory relations of its own. This is evident from the fact that when an eructation occurs, although no swallowing movement of the mylohyoids or constrictors takes place, a regular movement of the œsophagus begins, and continues just exactly as though the impulse came from the mouth, as in an ordinary swallow. Nothing resembling an antiperistaltic movement was observed. This peculiar relation of the third group of ganglion cells seems also evident from Quincke's recent experiments. He introduced water or air into the œsophagus of a dog through a sound whose opening lay from five to fifteen centimetres above the cardia. In this way a succession of contractions in the œsophagus was originated, but no proper swallowing occurred; that is, the upper segments of the tract (mylohyoids, pharynx) remained at rest.

Very curious, too, is another relation existing between these ganglion groups, for the second swallow taken shortly after the first inhibits the secondary contraction of the first swallow, and none occurs until the proper interval after the second swallow has elapsed. Indeed, a number of swallows may occur, one after the other, and the secondary, "peristaltic" movement will not occur until after the last swallow. According as the balloon lies in the first, second, or third section of the œsophagus, the interval between swallows may be nearly one-and-one-fifth seconds, three seconds, or from five to six seconds, respectively, without the secondary movement for the section proving itself. At the same time, a record is made showing that with each swallow the liquid is sent down. Kronecker and Meltzer seem to think that the liquid is held back until the final squeeze comes, although they apparently admit that the tone of the cardia appears to be weakened, and that after a succession of swallows, the squirt-sound is more readily heard. Ewald believes that the liquid works through the cardia (gravity?), and that air, perhaps, remains behind and is squeezed through when the secondary movement comes, the latter acting as a sweeper of the œsophagus. On the other hand, Meltzer especially notes that the contraction of the cardia (rabbit) may be inhibited by a succession of swallows, and that when these are over and the contraction does come, it is more intense, and lasts longer, than after an ordinary swallow, and Quincke saw on an opened stomach (dog) that the liquid was squeezed through noiselessly in from four to five seconds.

Both Ewald and Quincke maintain that the admixture of air is necessary to the production of, at least, the squeeze-sound, and that the time relations of this do not prove that the liquid swallowed remains in the œsophagus until it is squeezed through by the later movement. They also consider that the quantity and quality of the contents of the stomach materially affect the second sound. Evidently, much more must be done before this point is settled, and before much diagnostic value can be attached to it.

Very important too, are Meltzer's observations on the relations of the centre for deglutition to other nerve centres. His article is so full of meat as to be ill adapted for abbreviation and only the principal results can be noted here. The act of swallowing is a reflex act, it goes on independently of the will. We may will to contract the mylohyoids and lift the tongue against the palate and thus start the swallow reflex. Irritation of the central end of the superior laryngeal sets up the movements with great precision, indeed, "the mechanism of swallowing is one of the most exact and best controlled reflexes in the entire animal organism." The centre lies in the medulla oblongata, and the movements are complete in narcosis or when the brain is cut off, or when the medulla oblongata is separated from the medulla spinalis. This swallowing centre, in the floor of the fourth ventricle, has important relations to other centres, and the study of these opens up an instructive view of the association of inhibitions and suggests valuable therapeutical applications.

As we have seen, each reflex stimulation to swallowing sets up first an inhibitory action and then a discharging action in the centre for these movements. But there is also an effect on the inhibitory centre of the heart, for the heart-beats increase in frequency when we swallow and the increase grows greater with the increasing number and frequency of the swallows. This period of quickening is followed by one during which the heart-beats are slowed, but the slowing is not as marked as the quickening. There also appears to be an affection of a vasomotor centre, for the blood pressure as indicated by the fulness of the arteries sinks. Unfortunately, the conditions are not favorable for an exact direct measurement of the blood pressure on animals. When the swallowing centre is active the respiratory activity is lessened. This is not merely due to a mechanical interference on account of closure of the glottis for it is manifest in animals breathing through tracheal cannulas. It is found that the breath can be held more easily when small quantities of an indifferent liquid are repeatedly swallowed.

Very remarkable, too, is the fact that similarly we can, by repeated swallows, inhibit the contractions of the uterus, at least in the earlier stages of parturition, and the erection of the penis. Commonly, to be sure, the centres for these intimately related activities are supposed to be in the lumbar region of the spinal cord, but another centre for parturition has been found in the medulla oblongata, and there are other grounds for supposing that there may also be a higher centre for the erection. Less precisely established is the influence of the inhibitory process in swallowing upon various muscular contractions. The possibility of

stopping hiccough (spasm of the diaphragm) by small and frequent swallows, is not merely a popular notion — and spasmodic action in the glottis (from "swallowing the wrong way") can be quieted (inhibited) by continuing to swallow.

We have then the important general truth that summation and radiation are not merely observable of reflex movements, but the same general laws are applicable to reflex inhibitions as well. Therapeutically, too, these results are very suggestive, but the very simplicity of the means to be employed will probably continue to prevent their use. Perhaps we have in frequent small swallows of water a better and more efficient means of stimulating a feebly-acting heart and relieving a fainting fit than the ordinary treatment affords. Numerous other applications will readily suggest themselves.

Before leaving this subject, it may be mentioned that Prof. Harrison Allen[3] has suggested an ingenious device for registering the movements of the soft palate. I will add, however, as a matter of historical interest that this is essentially the plan proposed by Czermak,[4] about thirty years ago, which in turn was an adaptation of a method made known by Debrou at a much earlier time.

Debrou (1841) had introduced a probe through the nose and observed the movements of the external tip incident to the movement of the other end resting upon the soft palate. The mention of this in the German translation of "Donder's Physiology," (1856) led Czermak to devise a modification of the method. Using an iron wire 200 mm. in length, he turned over one end so as to make an eye (Oehse) 12 mm. broad, which he filled and covered with wax. At the other end the wire was bent at a right angle to the same side and in the same plane as the eye. This was so introduced that the narrow edge of the eye came to lie upon the soft palate, whose rise and fall would then be indicated by the rotation produced in the pointer before the nostril. Czermak says that he could not at the time have any of the devices made which occurred to him as likely to render the reading of the rotations easier; he does not seem to have returned to the investigation later.

Professor Allen uses a plain straight wire with a bulbed end to rest upon the soft palate. Just in front of the nose is a vulcanite support for a wire running up to a holder, which is merely a portion of a head mirror. Thus a fulcrum is obtained to produce movement of the external end of the rod, which has a fine flexible termination for writing upon the smoked paper of a revolving cylinder. Such lateral movements as occur may be registered by working with a horizontal drum.

— "Theism" is no longer to be understood merely in its old-fashioned philosophical sense. The word has been rehabilitated and is applied by an eminent medical contemporary to the complexus of symptoms caused by excessive tea-drinking. *Thea* as well as *Theos* claims a philological parentage in Theism.

[3] Harrison Allen. On a new method of recording the motions of the soft palate. Extracted from the Transactions of the College of Physicians of Philadelphia. Philadelphia, 1884.

[4] Czermak. Ueber d. Verhalten des weichen Gaumens beim Hervorbringen der reinen Vocale. Wiener akad Sitzungsberichte, 1857, und Moleschott's Untersuchungen. In Czermak's Gesammelte Schriften Leipzig, 1879, I. p. 423.

Clinical Memorandum.

REPORT OF A CASE OF EXTRA-UTERINE PREGNANCY, THE FŒTUS BEING RETAINED FOR THIRTY YEARS AND BECOMING A LITHOPÆDION.[1]

BY W. H. FALES, M.D.

In giving the history of this case, I hoped to quote from the records of the physician who attended Mrs. A., during her illness and who, as I understand, took extensive notes, but I am unable to do so, owing to his death a few years since, and the subsequent destruction of his records.

I am fortunate, though, in that such information as I have, comes from a twin sister who is still a remarkably vigorous woman both mentally and physically, and whose statements, as far as they go, are undoubtedly correct.

Mrs. A. was married September 24, 1844. Never had any miscarriages. She was delivered of a perfectly healthy child January 29, 1848.

Early in January, 1856, she became, as events proved, pregnant again, though her condition at the time was merely surmised, as menstruation continued to be present and in fact existed, with more or less regularity, throughout her entire pregnancy.

It was not until the middle of May that the attending physician made a positive diagnosis of pregnancy, basing his opinion on fœtal movements which became manifest at that time.

Early in March of the same year while visiting friends, she fainted, vomited and complained of considerable epigastric pain. There was no flowing at this time. The following day she rode home, a distance of four miles.

Directly after this, she had three so-called inflammatory fevers characterized by abdominal pain, excessive tympanites and uncontrollable nausea and vomiting. During one of these attacks an abscess formed just above the pubes, which opened but did not discharge much.

Counting from the middle of May, when fœtal movements began, October 1st would be the probable date of her confinement. About that time the physician was summoned, not on account of labor pains, as she *never* had these, but for excessive and painful movements of the child. These were always very marked, and caused her the utmost inconvenience. As she expressed it, she felt more life with this child in two hours than during her entire previous pregnancy. October 13th, the physician was again called, for the same reason. At this time "something was rubbed on the abdomen," after which the movements grew less and less, and finally ceased. For the next ten years she was an invalid, though nothing very explicit could be obtained as to her condition. She was generally miserable and had a number of attacks of abdominal pain, sometimes accompanied by icterus.

During this period the tumor very gradually decreased in size, finally remaining stationary and causing no trouble except a feeling of weight when standing or walking too long.

Her subsequent health was good until about two years ago, when a malignant growth attacked her larynx, which eventuated in her death December 24, 1886.

[1] Read before the Section of Obstetrics and Gynæcology of the Suffolk District Medical Society, April 20, 1887.

The autopsy was performed September 26th, Drs. Bill and Metcalf assisting.

The body was very much emaciated. The tumor was apparently situated about in the median line, but on palpation was found to extend downwards and to the left, the contained fœtus occupying a sacrum-left-anterior position, but entirely out of the pelvic cavity, the base of the skull being on a level with the umbilicus. On making the incision the tumor was found to be adherent to the abdominal wall, and it seemed as though it would soon have made its way through, either from pressure or ulceration, so thinned had the structures become at the point of its adherence.

It was almost lying loose in the abdominal cavity, the only points of attachment being the one just referred to, the pedicle, and some small adhesions to the intestines.

The intestines were ranged round the tumor — none in front of it — and were one mass of adhesions, forming with the abdominal walls the sac, as it were, containing the tumor.

The pedicle passed directly downwards, enclosing the uterus and then fading out gradually into the peritonæum. Nothing that would answer for a placenta, or the remains of one, could be found.

With the tumor I extracted the fundus, fallopian tubes and ovaries, which furnished no points of interest. Any further examination was denied. The autopsy suggested an extra-uterine pregnancy of the abdominal variety, but the history points rather to a ruptured tubal becoming an abdominal.

To epitomize the various dates:

Mrs. A. was married in 1844; first child four years later; second pregnancy eight years later; probable rupture of tube and subsequent attack of peritonitis at third month; death of fœtus at ninth month; death of Mrs. A. from cancer of the larynx thirty years later, the fœtus having become converted into a lithopædion.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

APRIL 20, 1887. DR. JAMES R. CHADWICK in the chair.

DR. F. H. DAVENPORT read a paper entitled

UTERINE HÆMORRHAGE.[1]

DR. FARLOW said, I was very glad to hear Dr. Davenport's remarks about the necessity of more carefully investigating cases of hæmorrhage which occur at the time of the menopause. The physician is too often satisfied with having made a diagnosis of "change of life" and allows the disease of the patient to go without proper examination. In regard to retro-version or flexion with adhesions, it is not the old chronic cases which give rise to hæmorrhage, but the acute or subacute inflammations which occur from time to time in the chronic cases.

With reference to remedies, I have often found ergot unsatisfactory, though sometimes of considerable value. I have never used gallic acid. Aromatic sulphuric acid has proved of service in many cases in which ergot had failed. I have been much interested in the paper of Dr. Wilcox on the Use of Hydrastis Canadensis. I have used it in only half a dozen or so cases, and have not yet sufficient data from which to form an opinion.

DR. SWIFT said that hæmorrhage was not confined to chronic cases of retro-displacement with adhesions. Besides the acute cases caused by falls, etc., he had seen cases of a subacute character where the hæmorrhage began with an increased flow at the menstrual periods, going on to metrorrhagia. The uterus in these cases is freely movable, and by replacing it and adjusting a pessary the hæmorrhage is stopped.

He had been using hydrastis lately in cases of profuse menstrual flow, with good results. It does not work well in all cases, and he could not say, at present, in what class of cases it would prove most efficient.

DR. INGALLS said, to obviate disappointment from the effects of ergot, I have always considered it best to give it in infusion, prepared at the time it is required.

Edes says, "the active principle of ergot is volatile and is easily decomposed," if we use the fluid extract, which is the best preparation next to the fresh infusion. The reputation of the maker should be of the highest.

DR. L. V. INGRAHAM mentioned the following case. In July, 1885, I saw a young married woman, then three months pregnant, who had a sudden and profuse hæmorrhage. She had been standing for about an hour and was tired and faint, other than this she had made no unusual exertion; there was no history of a fright or any injury, and she had always been well up to this time, with the exception of dysmenorrhœa for a year previous to her pregnancy. The flow was quite profuse for three days, then lessened markedly except during, and for about an hour after micturition or defecation, when the flow was very copious. She had nearly ceased flowing at the end of the third week from the time she was taken, but was advised to stay in bed until after the next menstrual epoch. At this time, although she was not imprudent to my knowledge, the hæmorrhage came on as freely as at the third month and lasted four or five days. At the end of two weeks the flow had nearly ceased again, and she insisted upon getting up at all hazards. At the end of the fifth month there was another free hæmorrhage for four days after, when the discharge became thin and brownish. At each succeeding menstrual epoch there was a copious hæmorrhage lasting from three to five days, and during the intervals the thin brownish discharge continued. At the ninth menstrual epoch, labor began on Friday night a little before midnight, and after an easy labor her child, a boy weighing three pounds, was born. Through the fault of a messenger I did not see the lady until Sunday night. The physician in charge told me that he employed Crede's method in the third stage of labor, but without success; he then used placenta forceps but failed, and the patient being very much exhausted he made no further effort until Sunday afternoon, when after etherizing the patient, with the aid of two able assistants he removed the placenta. It was entirely adherent. The placental site was at the fundus uteri. At no time during the pregnancy were any clots passed; at the times when the flow was profuse the patient complained of "cramp in the abdomen," and she steadily lost in weight and was very much emaciated when her

[1] See page 124 of the Journal.

child was born. She has never been well since. Her child is living and is well.

DR. CALL asked if any members had noticed a tendency to profuse menstruation in patients with organic heart disease. Dr. Bowditch had told her he thought that subjects of the latter were prone to menstruate too freely. He then spoke of a case of exceedingly profuse uterine hæmorrhage in a young girl who had no local pelvic trouble, but who had serious organic disease of the mitral valve, probably congenital.

DR. CHADWICK. It seems to me that I have obtained better results from the continued use of ergot for a number of weeks, substituting for it some of the mineral acids at the time of the hæmorrhage. In the treatment of fibroids, I have, in some instances, obtained much more marked effects in reducing the size of the tumors, from combining with ergot the muriate of ammonia, as first recommended by Atlee.

In the use of Chian turpentine for uterine cancer, I soon recognized its inefficacy to arrest the progress of the disease, but found it a powerful hæmostatic. I consequently extended its use to uterine hæmorrhages from other causes, with occasional surprising effects in otherwise intractable cases. I recall one young girl who brought me a letter from Dr. Barker of New York. She had been flowing most of the time for two years, despite the persistent treatment in the Free Hospital for Women, and elsewhere, by astringent applications, by curetting, dilatations of the cervix, and all the customary internal medications, without avail. The Chian turpentine arrested the hæmorrhages immediately, and they never recurred. In a young lady of twenty-six years, now under my care, whose ovaries were removed by me last spring for rapidly growing and hæmorrhagic fibroids of the uterus, after three months' interruption profuse hæmorrhages recurred, but have been repeatedly arrested by the injection into the uterine cavity of strong acetic acid. As this acid does not coagulate the blood, its use does not expose the patient to the danger of septic infection. I have been able by this means to keep my patient in perfect physical condition.

DR. W. H. FALES reported

A CASE OF EXTRA-UTERINE PREGNANCY, THE FŒTUS BEING RETAINED FOR THIRTY YEARS, AND BECOMING A LITHOPÆDION.[1]

DR. FITZ said the specimen shown by Dr. Fales represents a longer interval of time than any he remembered to have seen. Older examples are known to occur, but their number is few. The cavities of the head and trunk are well defined and easily differentiated. He thought it not unlikely that the earthy salts deposited in these fœtuses might subsequently be absorbed to a greater or less extent, and parts of the fœtus be discharged externally. A specimen in the Warren Museum favored this view, as it showed a completely calcified head and trunk, but with extremities which were partly calcified and partly macerated. As the age of the latter specimen was seven years, it indicated the degree of calcification which might take place in this time.

Dr. Fitz said, in reply to Dr. Chadwick's question, that the diagnosis of lithopædion evidently depends upon the presence of an abdominal tumor following the history of pregnancy, but without the delivery of the fœtus. With such a history, the longer the tumor persisted without undergoing enlargement, the greater was the probability of its being of the above nature.

DR. Z. B. ADAMS said that a peculiar interest attached to this case, in his mind, because the physician who attended the woman in 1834 was Dr. Enos Hoyt, of Framingham, and his grandson, Dr. Enos Hoyt Bigelow, of that town, had lately reported in the *Boston Medical and Surgical Journal* a case of abdominal pregnancy, occurring at or near the time of the death of the subject of this lithopædion.

With regard to Dr. Bigelow's case, he would like to ask the opinion of members as to the best method of dealing with the placenta in any operation to remove the child. Of course, the placenta can be let alone, and this would be obligatory in a case where this organ was, as shown at the autopsy, firmly fixed upon a large surface of the parietal peritoneum. It had occurred to him that some attempt might be made by ligature and cutting away, but the hæmorrhage would probably be uncontrollable. If left behind, no drainage would be likely to avert death from septicæmia.

Considering this difficulty, Dr. Adams, while advising abdominal section, did not strongly urge it. The fact that the case reported to-night was known and discussed by Dr. Bigelow's patient and her family, influenced them to oppose operation. It may appear strange that these cases should be so difficult of diagnosis. It should, however, be borne in mind that symptoms of pregnancy are chiefly subjective, and are, in a hysterical woman (as was the case here), of doubtful value. A uterus bound down by adhesions, the abdomen greatly distended by fluids and gases, with tenderness, the absence of fœtal heart-sounds or motion, and a previous history of abdominal pain and peri-uterine inflammation, gave in the present case occasion for doubt.

DR. CHADWICK. This lithopædion is a beautiful specimen of a very rare condition. It is curious to speculate upon the conditions causing the calcarious deposits in one case, and not in another. We seem to have data to guide us in determining the commencement of the stowage of an extra-uterine fœtus. You may remember the mounted skeleton of the mature fœtus that I presented to the Section last winter. It had died at full term, and been carried by the woman without serious inconvenience for nine years. It was encysted and packed solidly in the remains of its own soft tissues, which had undergone a fatty degeneration, so as to be what is called adipocere. The diagnosis of extra-uterine fœtation is of extreme importance, but often fraught with great difficulty. In another case that I had last year, I was able to make a correct diagnosis at the ninth week from the history and physical signs. This was confirmed three days later by the examination by Dr. Fitz of the decidua, and by finding, by means of the uterine sound, that the uterine cavity was empty, and measured four inches in length. The treatment was directed to killing the fœtus by the electric current, which was successful, as proved by the extraction of the bones through the vagina by Dr. P. J. Murphy, of Washington, five weeks after she left my care. This is the first case on record in which the efficiency of this method of treatment has been absolutely demonstrated by the subsequent extraction of the fœtus.

DR. A. F. HOLT showed to the Society two interesting morbid specimens, one showing a remarkable

[1] See page 131 of this number of the Journal.

degree of post-mortem softness where the stomach and diaphragm had been perforated, and the pleura covering the lower part of the left lung destroyed. These organs were from the body of a girl fourteen years of age, who died of meningitis. The autopsy was twelve hours after death. The other showed an extraordinary inhalation of soft mud by a new-born child. The trachea and larger bronchi were nearly filled with this substance, and it had even penetrated the smaller air-passages in some parts of the lung. This child was born in an out-house, and was immediately carried by the mother to near the edge of a neighboring mud-hole, where she buried it.

AMERICAN NEUROLOGICAL ASSOCIATION.[1]

THIRTEENTH ANNUAL MEETING AT LONG BRANCH.

JULY 20TH.— AFTERNOON SESSION.

DR. DANA, of New York, read a paper on

HEREDITARY TREMOR.

The writer remarked that he thought this subject had not been given the attention it deserved; stating that the child can even be born with it, and mentioning one case where it occurred in all the members of a family, in another case where it appeared in a watchmaker, yet he could adjust the finest works of a watch, as the tremor can be controlled by the will temporarily; ordinarily the health is good, and the tremor ceases when the patient sleeps. The grandfather had been very intemperate; there were nine of his own family, one was insane, and another fond of drink; all of them lived to advanced life, seven of them had thirty-four children, and all of these had the tremor, in some epilepsy developed, so that in this instance the tremor developed in three generations, the total number in which it appeared being forty-four. In another family there were three cases, and in another there were two. In the family of three children, the father was of good habits, a son thirty-five years of age had had the tremor since infancy; he is rather addicted to the use of alcohol and tobacco; his brother, who is also afflicted, is a man of very steady habits.

In this disease the head and neck are not affected as in senile tremor; it also seems to occur more in men than women, it appears to be distinct from paralysis agitans.

DRS. PUTNAM and DERCUM mentioned cases coming under their notice, the same symptoms as described by Dr. Dana being visible.

DR. HAMMOND asked Dr. Dana if he considered this the only form of hereditary tremor. He remembered a case in which the patient could not sit in a chair. The tremor was similar to chorea in its manifestations; he could only trace it back to the mother in this instance; a brother and sister of this patient had it, and also a niece; it did not appear in this man until he was thirty-five years old, and toward the end of his days mental failure commenced, delusions, hallucinations, etc.

DR. DANA replied he was not aware it was hereditary; the tremor he had described in his paper was by no means rare, and he was surprised at it not being found in literature.

A paper was read by DR. GEORGE W. JACOBY, of New York,

[1] Continued from page 113.

ON MICROSCOPICAL STUDIES IN A CASE OF PSEUDO-HYPERTROPHIC PARALYSIS.

The author considered that although much had been done in regard to the primary affections of the muscles as regards diagnosis, it still remains rather obscure and vague from our clinical field of vision, and in order to understand it we must bring its pathology more prominently forward. The histological changes he regarded as not settled definitely.

The first case reported by the reader was a typical one of this disease. The patient was fifteen years of age, seven children in the family, two died, one being paralyzed, the latter probably from diphtheria; no family taint. Patient walked at thirteen months; had convulsions, repeated every four days, after which was unable to walk for four weeks, but afterwards walked as well as ever. At the age of nine years he had a severe fall, confining him to his house for eight weeks. The first symptoms were noticed at the age of twelve years.

On examination by Dr. Jacoby, no atrophy of any muscles could be discovered, his condition was typical of the disease. Two pieces of muscle about the size of a bean were secured and prepared for microscopical examination; the muscle fibres were found to be but half the normal number under the glass, and were also smaller than natural; no hypertrophic fibres were found, although some observers claim they are always there. The speaker remarked that these perhaps could be found in some other muscles of the body. The connective tissue was more than twice the amount in the normal subject. Dr. Jacoby here showed photographs of his dissections illustrating the condition represented in the subject; the question, however, arises as to whence comes this augmented connective tissue. Erb, Friedrich, Buss, Schultze and others have endeavored to describe it. The reader remarked that the fact that the muscle fibres were decreased in number as well as in size, was in itself suggestive of the source of the augmented tissue, and all his specimens went far to prove that the connective tissue had grown to a great extent at least, at the expense of the contractile substance, the medullary corpuscles having originated from the muscle substance itself. In many places the transition occurring can be observed. The writer described carefully the line of investigation followed out which resulted in the confirmation, with few exceptions, of the views of such writers as Charcot, Hetller Eulenberg, Friedrich and others.

From these investigations he remarked, that if now he could be allowed to draw conclusions without, at the same time generalizing, he should, in a measure, differ from some observers; being convinced that in many patients the disease is essentially a chronic inflammation, invading *both the perimysium and the muscle tissue*, he considered it impossible to say what the cause of this process might be unless sought for in a congenital malformation of the muscle tissue itself; such malformation being indicated by the small size of the sarcous elements, as we are accustomed to see them in the earliest stage of embryonal development. But, however this might be, the pathological process consists of a gradual reduction of the muscle fibres into medullary or inflammatory corpuscles, which in turn go to build, partly fibrous, partly cartilaginous, and partly fat connective tissue. The process, which is extremely slow, gradually leads to an augmentation

of myxomatous or other varieties of connective tissue at the expense of the muscle tissue. He would here say that he could not agree with Gower and Buss, that proliferation of the connective tissue is the primary, and the disease of the muscular tissue the secondary process. Either the reverse of this is true, or the process is simultaneous, both in the muscle and the perimysium.

The writer did not hesitate to place the whole process as seen in his specimens, in the same category with the process termed *myositis ossificans progressiva*; had he to describe it in a few words he would call it a *myositis progressiva hyperplastica*. Of the various investigators of the subject during the last few years, he thought Georgeus was the only one who also considers the process a myositis; but he looks upon it as an intestinal myositis alone, and says that he is not prepared to give an opinion regarding the changes in the muscle fibres themselves.

The speaker thought the more frequently careful microscopical examinations are made of the muscular tissue, in the various dystrophiæ, the more are we obliged to come to the conclusion either that from a microscopical examination alone, we cannot always make a distinct diagnosis between the various affections, or that they are as largely admitted to-day, all varieties of one and the same process which unperceptibly blend one with another.

What particularly impressed him in this connection, was that his examination differed so decidedly from descriptions of pseudo-hypertrophic muscles, as given by others, yet notwithstanding the case was clinically a perfectly clear one, it agreed almost entirely in the description given by Friedrich, of the muscle from a case of progressive muscular atrophy. (Case X, page 37) which affection, as is well known, he classed as a primary myopathy, and considered the process to consist of a chronic progressive myositis.

Dr. Dercum stated that he had examined some typical cases last fall occurring in the adult. Also a case in which there were some signs of inflammatory changes in the corpuscles and connective tissue element, in these cases there was an interstitial myositis, but whether it was secondary to the myositis proper it was hard to say.

Dr. Sachs, of New York, presented a paper

ON ARRESTED CEREBRAL DEVELOPMENT WITH SPECIAL REFERENCE TO ITS PATHOLOGY.

The writer referred to the special interest this condition of the brain had to the pathologist, as the opportunities for investigation are few and far between; he drew attention to the histological changes occurring in the cortex; the pathological conditions are extremely varied. A case was mentioned of a child which was perfectly formed in its limbs; before birth, however, the mother was thrown from a carriage; there were symptoms also of mental weakness on the side of the parents. The child would lie on its back and never attempt voluntary movement, objects placed in its hands would fall out; as it grew mental vigor did not increase and finally total blindness set in. The child never uttered a sound except a low gurgling noise if left alone. There was no rachitis, no history of syphilis, and the child finally died from pneumonia; post-mortem the skull was found to be thickened, and there was a large clot in the longitudinal sinus; the brain weighed two pounds, the bloodvessels appeared to be normal. Referring to Mr. Mills' paper last year on "Brains of low Type," he, (Dr. Sachs) thought this brain resembled those at that time exhibited, in many points; he drew attention to the exposure of the island of Reil in his present specimen, also to the retraction of the first temporal convolution, there was a general narrowness of the convolutions; in the right hemisphere the island of Reil was but little exposed. From this and careful microscopical examination he considered it a clear case of retarded development, and not to be attributed to inflammatory conditions.

Dr. Mills considered the histological and pathological conditions of the case were a hard matter to discuss as regards causation; he thought there might be a few cases on record, and this added to them might be of value.

Dr. Amidon remarked he had seen two cases very much like this, in which there was no lesion apparent but there were signs that hæmorrhage had occurred at some time before. He thought hæmorrhage might occur without leaving any trace at the autopsy, and he would ask Dr. Sachs whether it occurred to him that it might have been the same in his case.

Dr. Sachs replied that he had, and also of the accident occurring to the mother in her fifth month of pregnancy, but he thought if hæmorrhage had occurred there would be thickening of the cortex. The child, at birth, was brighter than later on in life. He did not think it was owing to traumatism, but the general circulation may have been disturbed; he thought it more plausible that it was a disturbance of nutrition.

JULY 21, 1887. — SECOND DAY. — MORNING SESSION.

Dr. Lloyd read

NOTES ON A CASE OF THE INSANITY OF DOUBT.

The form of mental disease which has been described by some French writers as the insanity of doubt, has presented itself to my notice in a number of cases, to one of which I will briefly call your attention.

These cases are characterized as a special form of delusion which differs radically from those of grandeur or persecution. These latter rather impel to action, the delusions of doubt restrain from it. The systematized delusion has something rather positive, aggressive and self-assertive. The delusions of doubt are not so firmly fixed; they are changeable, negative, vulnerable, and confessed with timidity and mortification. They are somewhat allied to melancholic conditions, but are not characterized by depression of spirits, (psychalgia), so much as by confusion and perplexity of mind, which exasperate the patient and from which he would be only too glad to escape. He is apt to recognize the perfect character of the morbid states and will willingly take measures to counteract and cure it; sometimes when taxed with it will even joke about it, and it might require a stretch of conscience to pronounce him a lunatic under the law. Hence, it is a species of reasoning mania. Some cases hardly amount to delusions in the narrow sense, the patient does not so much believe a false thing as he is impelled to solve innumerable problems which present themselves to his mind, and which may be as useless as they are perplexing, both to himself and others, and equally imperative. They are exaggerated states of that intense impulse, to solve a problem or discover a mystery which is not infrequently seen in a healthy

mind, hence they are analogous to healthy processes, as is the case always in insanity. Hence, again, they are intellectual in character, although this might be disputed by some in favor of an amorphous moral insanity (so-called) because the follies and perplexities of these cases claim a superficial attention, and are not sufficiently investigated and detailed. A surface view of such a case would not reveal its essential psychioc features.

This particular state, doubt, perplexity, probably lies at the root unconfessed, forming the motive of a certain number of eccentricities and aberrations which are ascribed by some to mere perversity of moral character, and by others are attempted to be shielded under the ample but dark cloak of moral imbecility. Other cases approach nearer a systematized delusion; they present a certain morbid association of ideas which produce luxuriantly various crops of indecision. These patients link their fate to trivial happenings; they will be lost if some unimportant and impertinent fact obtrudes itself suddenly upon their diseased imagination. The vacillation of their minds becomes amusing to the ignorant, but tragic to the immediate family, who suffer, while it is both vexatious and exhausting to the patient, and highly instructive to his physician. All these operations of the so-called intellectual sphere shade into one another and into others; in fact, they form an inextricable network of error, just exactly as broad as the human mind. This condition, however, is not to be confounded with confusional insanity, for these patients have their wits about them, they are not incoherent, but quite connected in their ideas and speech; as indeed is necessary for them to accomplish the amount of hair-splitting and wool-gathering of which they are capable. There is, however, some likeness to the imperative conception, for these patients are compelled quite irresistibly to engage in their morbid penance or dialectic gymnastics in order often to deliver themselves from the limbo of their own thoughts; if one spirit of doubt is laid, a dozen arise to take its place.

Mrs. A. B., a resident of a distant city was brought to Philadelphia, and placed in a hospital for the insane. During the preceding year she had shown change of character and habits, developing symptoms of *folie du doute*, and exhibited it in a variety of ways; had been known to get out of bed twenty times during the night because under the impression that she had not performed the act right, and unless it were performed in a precise manner, it would cause disaster to her. So, again, she obliged her husband to remain in her room with her until she had put on and off again a number of times, one of her skirts, from the same impulse. She reads no papers nor visits her friends for fear of receiving impressions which will haunt her. When dressing, she obliges her husband to hold a pin for her which she must seize just the right moment, otherwise the toilet must be made again. She has sometimes insisted upon his rising in the night, going down stairs, and lighting a certain gas-burner and extinguishing it again in just a certain way, because this was necessary to absolve her from some of her morbid doubts and associations; has not been content until her husband has humored her; on returning to bed he would be subjected to a long cross-examination on the subject. At night she has seen printed sentences before her eyes, suggesting disagreeable and depressing subjects; but these are not true hallucinations, as she does not believe in their reality, yet they are a suspicious symptom.

When she reached Philadelphia her husband placed her in a hotel instead of an asylum, and then told her of his intention to put her in restraint; the lady protested against this indignantly, and bade her husband and the medical profession defiance. A few hours later I visited her; she was a young woman thirty years of age, of not good color and complexion, of sound muscular system, but not well-developed; suggesting physical impairment rather than mental. She had refused to have a physician sent for, but when assured that no wrong would be done her she was once more herself. She conducted her share of conversation on general subjects quite rationally, also speaking of her notions, stating that she knew they were morbid. The patient was very candid and courteous to the writer but could not be persuaded to go voluntarily to the hospital. It was the opinion of the writer after a long conversation with this lady, that it would not only be injurious to take her to an asylum against her will, but that it would probably create a public scandal. Dr. C. K. Mills was called in consultation and also concurred in the same opinion.

It is important to add that this lady had an insane first cousin, and her father had been an excessive drinker. The several cases I have seen presenting these and similar cases, have all probably been of the neurotic or constitutional type.

It has not been the intention in this paper to attempt the naming of a new species of mental disease, but simply to describe certain symptom groups which are no doubt not isolated in any one case, but would probably be associated with other manifestations of disease in any case, which was followed through a long period of time.

Dr. Mills thought the paper would help solve the question as to the disposal of these cases, by an interchange of opinion between the members of the Association. As stated by Dr. Lloyd, he had seen the patient mentioned, and concurred in Dr. Lloyd's opinion. In some cases, it would best serve the patient to be sent to an institution, but extreme care and judgment should be used, remarking that few cases gave such trouble to families as these; and were the doctor to condemn them to be submitted to restraint, were the case to be brought to court, but few juries would concur with the doctors, as the patient appeared to be sane on the especial point at issue, and it would be doubtful if the community at large would judge the patient insane, or even necessary to discipline.

Dr. Gray remarked that, in these cases, he had no doubt as to their being insane, and should not hesitate to put them under restraint, but would not do so unless he well knew the antecedents of the case. In his experience, he had found them exceedingly dangerous cases, as some of them will go a long time without manifesting dangerous symptoms, when, some day, they will commit some terrible deed. The speaker quoted a case, in which the woman had been in that apathetic condition for some time, who had, by actual count, washed her hands four hundred times in one day, and yet, for all medico-legal purposes, would have been considered sane. She had become debilitated, owing to neuralgia and some uterine difficulty, but her mind seemed to recover somewhat under careful medical treatment. He, however, decided to send her to Bloomingdale, and so informed her, stating the

result he hoped to attain in her case; but the day before she was to go, she unfortunately quarreled with her mother on some trivial matter, and set fire to her own clothing, having secretly procured and hidden matches about her person, the sulphurous portion even under the finger-nails, paper being secreted under her arm-pits. This illustrates the danger of these cases. I deem them especially dangerous when left with children; we must take the risk in sending them to an asylum. We must settle this question from a scientific point of view, rather than the medico-legal sense.

Dr. Lloyd, in conclusion, stated that he did not wish to be misunderstood on that point, as he appreciated that there were proper cases for restraint, if they can be taken to an asylum without creating an unfavorable impression upon the patient, and increasing their malady; but in the case he quoted, the husband did not wish the wife to be removed, laboring under the impression that she then had, and as she was capable of reasoning upon that point, claiming that it would cast a stigma upon her (which was reasonable) if she were taken to an asylum. He had pursued the course stated, and which, he was happy to say, Dr. Mills concurred in. In these cases, the surroundings required, he thought, careful consideration.

(To be continued.)

AMERICAN OPHTHALMOLOGICAL SOCIETY.

Twenty-Third Annual Meeting.

THURSDAY.—SECOND DAY.—MORNING SESSION.

CASE OF GLIOMA OF THE RETINA,

by H. D. Noyes, M.D., of New York.

The patient, a child, was first seen when fifteen months old. The eye was enucleated, and microscopic examination confirmed the diagnosis of glioma, which was made prior to operation. The patient was again seen fourteen-and-one-half years later, when sixteen years of age. An artificial eye had been worn. There was not the slightest evidence of a return of the disease.

PSEUDO-GLIOMA.

This case is reported on account of the interest connected with the diagnosis. It was difficult to say positively whether or not there was an intra-ocular tumor. The case was examined by Dr. H. Knapp and myself, and we made a diagnosis of inflammatory trouble, but enucleation was advised, on account of the doubt as to the correctness of the diagnosis, and even if the affection were purely inflammatory, enucleation was the wisest plan, in view of future possibilities. The patient was a boy, aged five years, who, in November, 1886, was thrown from his velocipede, the handle of the machine causing a wound of the left cheek, under the orbit. There was no apparent injury to the eye, and during the winter there was no trouble. On May 4, 1887, he was brought to the author. There was, at this time, a cicatrix one inch below the border of the left orbit. No irregularity of the orbital edge could be detected. Pressure on the globe caused no pain. The movements of the eye were normal, and the pupil active. The iris had a slightly greenish hue. An extremely vascular growth was seen with case. This appeared to fill the fundus. After consultation, it was deemed advisable to enucleate the eye. This was done, the wound healing promptly. Examination showed that there had been cyclitis with inflammation of the vitreous, with the production of a mass of inflammatory tissue, extending across the eye behind the lens, forming a perfect septum. The retina was totally detached, and the choroid was partially detached. There was, also, marked hypertrophy of the tissues at the base of the orbit. It was thought that the original process had been an injury to the floor of the orbit.

[1] Continued from page 111.

PROLAPSE OF THE LACHRYMAL GLAND.

Dr. Noyes also reported the case of C. S., aged twenty years, who consulted him on account of a swelling in the upper lid of the right eye. This had been growing for nine years. It could be freely moved over the globe, and moved with movements of the eyeball. There was no history of injury or of inflammation of the eye. The mass was removed, and found to be a displaced lachrymal gland. The removal has been followed by no unpleasant effects. Four cases of displacement of the lachrymal gland are on record.

OPERATION FOR THE RELIEF OF ENTROPION OF THE LOWER EYELID.

While, in theory, the operations for the relief of this condition are very simple, yet, in practice, they often fail to accomplish the desired end. The author described an expedient which he had employed four years ago. He excised a piece of skin below the border of the lid, and then dissected up a flap, leaving an open wound. He next freshened a spot on the outer border of the lower lid, taking out a piece of conjunctiva. He then turned the flap upward, and attached it to the freshened surface. This little flap served to hold the lid in a position of eversion. In one week the stitches were removed. The patient then disappeared, and was not seen for four years. It was then found that the lid remained in a natural position. The little bridge of skin still was present, and under it there was a sinus, through which a probe could be passed. The piece of skin was divided, and the result was perfect.

DISCUSSION.

Dr. Samuel Theobald, of Baltimore. In connection with the case of glioma, I would mention one that has gone nine-and-one-half years without a return. The only weak point in the case is that no microscopical examination was made. The microscopical appearances were, however, characteristic. The operation was done when the boy was six years of age. The boy is still perfectly well, and there is no suggestion of the return of the disease.

Dr. H. Knapp, of New York. Until lately, I have held the view that there was such a thing as the permanent cure of glioma, but now I am very doubtful if this is ever accomplished. There are exceptional cases, which do not terminate fatally until ten or fourteen years after operation. They then die from a return of the local disease, or else from a generalization of the condition. Graefe said that all of these cases died.

Dr. J. S. Prout, of Brooklyn. I have had one case of plastic exudation in the eye of a child, which went on to rupture of the eyeball and the death of the patient. I believe that life might have been saved if the eyeball had been removed.

Dr. B. E. Fryer, of Kansas City. In the diagnosis of small intra-ocular tumors, I have, in several in-

stances, derived much advantage from the use of the electric light.

DR. H. KNAPP, of New York. In the illumination of those eyes which are blind, I have used sunlight. The light is admitted through a hole in the shutter, and thrown into the eye by a large concave mirror. This is of advantage in the diagnosis of glioma and of sarcoma, where the fundus is often very dull.

DR. EMIL GRUENING, of New York. I have seen two cases in which there has been an apparent immunity from the return of glioma. The first case was operated on in 1875. The patient was a girl, five years of age. The optic nerve was not involved. The girl is still under observation, and in perfect health. The second case, a child one year old, was operated on May, 1880. It was a case of true glioma, with no involvement of the optic nerve. The child is still perfectly healthy. Both of these patients have been wearing artificial eyes since the operation.

DR. JOHN GREEN, of St. Louis. I have found most of the operations for entropion of the lower lid unsatisfactory. I have, in a general way, followed Panas's recommendation of making an incision below, and bringing the lid down by the use of sutures. I have extended this operation by the following procedure: After inserting the sutures, I make a cut a little inside of the border of the lid, carrying it through the whole thickness of the tarsal fibrous tissue. When this is done the sutures are much more effective, and I find that there is no tendency for cicatricial contraction to occur in the process of healing. The results obtained by this method have been eminently more satisfactory than those obtained by any other procedure.

DR. EMIL GRUENING, of New York. In the treatment of entropion of the lower lid, I have employed the method of Hotz. I have exaggerated this a little by passing the sutures through the whole thickness, not only through the orbital tarsal aponeurosis, but also through the conjunctiva. I have now under observation six cases which have been operated on during the last six years, and the result has been satisfactory.

A PHENOMENAL PULSATION OF THE INTERIOR OF THE EYE,

by DR. W. F. MITTENDORF, of New York.

The patient, fifteen years of age, came under observation for asthenopic trouble. He showed no signs of disease. The tension of the eye was normal, and the fundus was normal. There was no pulsation of the arteries or veins, but pulsation could be induced by pressure. A short distance above the disk, there was a grayish-white band, stretching from one vein to another, and looking like a little sac filled with fluid. In the middle, this band presented a little point. This band presented a distinct pulsation, which corresponded with the cardiac pulsations. The patient was seen a number of times, and the appearance was always the same. A little higher up, and more to the nasal side, there was a similar band connected with an artery. This did not pulsate, except when pressure was made. It was thought that the band was composed of connective tissue, which was thrown into vibration by the meeting of the vibration of the two veins with which it is connected.

DISCUSSION.

DR. EDWARD JACKSON, of Philadelphia. I recently saw, in a case that presented no spontaneous pulsation, a little band extending from the perivascular sheath, which was thrown into vibration with each radial pulsation. This condition occurred in both eyes.

INCREASE OF BLINDNESS IN THE UNITED STATES,

by LUCIEN HOWE, M.D., of Buffalo.

Attention was called to the fact, that while the population during the ten years from 1870 to 1880, increased at the rate of 30 per cent., blindness during the same time increased over 140 per cent. By means of a diagram this percentage of increase in each State separately, was shown. The statistics also show that blindness increased in an almost constant ratio from north to south in the United States, and that it decreased in the same way from east to west. This was also shown by colored maps. The cost of sustaining this army of over fifty thousand blind was estimated on the lowest basis of cost, and of wages which would have been earned, at over sixteen million dollars in 1880, or over twenty-five million in 1887. As for the causes, contagion was found to exercise the most important influence; this was found by a special examination made for the purpose of 128 pupils at the Batavia asylum for the blind, by the statistics collected by Magnus, and by the record of over forty-eight thousand cases treated at the Manhattan Eye and Ear Hospital. Immigration was also considered as an important factor, in view of the large number of contagious diseases of the eye introduced every year into the country, and the laxity or absence of quarantine regulations regarding them. As for the prevention, suggestions were offered:

First, As to the care of new born children.

Second, The isolation of suspicious cases in residential schools and other institutions, even for adults also.

Third, The instruction of the public as to the advisability of guarding against contagious forms of disease.

Finally, It was advised that the entire matter be referred to a committee to examine again the statistics, and report more complete methods for the prevention of blindness.

DISCUSSION.

DR. SWAN M. BURNETT, of Washington. I have been much interested in the statistics of Dr. Howe, particularly in those with reference to the greater percentage of blindness in the southern portions of the United States as compared with the middle and more northern portions. This brings up the important question of the influence of race. The larger part of the population of the South is, of course, negroes, and the larger part of the blindness must be among that race. It has been my experience that negroes do not suffer to any degree from trachoma. In a study of several thousand cases of eye troubles among the negroes, I have found only one genuine case of trachoma and that occurred in a mulatto. The conjunctival diseases, which in other races cause a large part of the blindness, must be thrown out in considering the negro. The negro, however, suffers much more from scrofulous disease of the eye, particularly of the cornea, than do the white race. Negroes also suffer largely from ophthalmia neonatorum, and many cases of blindness due to that cause have come under observation.

DR. W. F. MITTENDORF, of New York. I am not surprised to hear that blindness in the United States is increasing. I think that the most prolific cause of this is the overcrowding of young persons in

institutions. An examination of a large institution in the neighborhood of New York has shown a large number of contagious ophthalmic cases in that institution not known, or neglected. In our large dispensaries we meet almost weekly with persons who have become blind from neglect and from contracting diseases of this kind in such institutions. It is very difficult to get an idea of the exact number of blind persons. The great majority of blind children are not counted in these statistics. They are kept at home and provided for there. One of the most important things is to stamp out these diseases in large institutions, and the best way to do this is to prevent overcrowding. Instead of placing the children in large buildings, they should be sent to the country and placed in small numbers in cottages.

Dr. Peter A. Callan, of New York. The whole question turns on this, what can we do? We are very backward in that respect. In London they have a Society for the prevention of blindness, which does good work. The spread of the disease is often due to neglect and often to the use of improper applications in ophthalmia neonatorum on the part of the mother or nurse. Ought we not in every State to organize societies and instruct the people what they should do and what they should not do?

Dr. Myles Standish, of Boston. It has been my experience that the most troublesome cases of trachoma and the like occur in persons who have been in this country only two or three weeks. When they arrive in the country the disease is usually at its height and they are in a condition to spread the affection among those with whom they come in contact.

In connection with this matter, Dr. Howe offers the following:

Whereas, The census reports indicate that there has been an increase in the number of blind in the United States, more than four times as great as that of the total population, and

Whereas, An inquiry as to the causes of this, shows that it is largely due to contagious diseases of the eye, therefore

Resolved, That a committee of three be appointed to examine further as to this apparent increase, and recommend means for its prevention.

Resolved, That the President of the United States and the Secretary of State be respectfully requested to furnish this committee with whatever letters or other recommendations may be necessary to further their investigations in this country or elsewhere.

Resolved, That the officials in charge of residential schools and similar institutions also be requested to assist the committee to any extent in their power.

These resolutions were adopted, and the President announced Dr. Lucien Howe, of Buffalo, as chairman of the committee, the other members to be appointed subsequently.

(To be continued.)

— At the meeting of the American Dental Association, held at Niagara Falls, August 4th, the following officers were elected: President, Frank Abbott, New York; First Vice-President, C. R. Butler, Cleveland, Ohio; Second Vice-President, F. S. Waters, Baltimore; Corresponding Secretary, F. A. Levy, Orange, N. J.; Recording Secretary, G. H. Cushing, Chicago; Treasurer, G. W. Keeley, Oxford, Ohio.

THE BOSTON

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ACADEMIC AND PROFESSIONAL COURSES OF STUDY.

Some months since we referred to a proposition made by the Medical Faculty a year ago, to the Academic Council of Harvard University, relating to a modification of the academic course in the interest of the professional schools and the graduate department. It was then shown that, with the raising of the standard of admission, the development of elective studies, the relaxation of the former parental oversight of the students, the age of graduation had been and was steadily advancing, until a point had been reached where the efforts of the professional school, and especially of the Medical School, to encourage an academic course as a preliminary to, or to increase the length of their own courses of study, were seriously antagonized. So seriously in the estimation of not a few friends of the Medical School, that an average age of graduation from the Academic Department of twenty-three, or even of over twenty-two years, constituted an absolute barrier to that school's establishing a compulsory four years' course as far as support from the College of its own university was concerned.

Since the proposition of the Medical Faculty was submitted, the Committee of the Council, to whom it was referred, have held five meetings, at which all the members were present, and a very full and free oral discussion of the subject took place. Moreover, most of the members presented in carefully prepared written papers their views on the merits of the various plans proposed, or suggestions as to the best manner of meeting the difficulties which had presented themselves.

A report, privately printed, publishing these in the form of appendices, shows that the committee, representing different departments and interests of the University, find themselves unanimously of the opinion that it is desirable to enable Harvard students to begin their professional studies one year earlier than is possible under existing arrangements. "Any general plan which may be adopted for bringing about this result must effect a diminution in the amount of

undergraduate training, and a corresponding increase in the amount of graduate instruction, and in order to secure the best results from a change of this sort, the Committee recommend an alteration of the University organization, which they also regard as in itself desirable in the interest of higher education: namely, the consolidation of the instruction in the College, the Graduate Department and the Scientific School, under the control of a single Faculty. The Committee at the same time think it of great importance for the success of such a reorganization that the scholarships now granted to undergraduates be made available also for students in the Graduate Department."

We understand that the members of the Committee were pretty evenly divided in their preferences as between two of the plans proposed for securing the changes which all concurred in deeming desirable. In order, therefore, to inaugurate these changes the Committee agreed to recommend to the Council the adoption of the following votes:

(1) That in the opinion of the Academic Council it is desirable that the instruction in the College, the Graduate Department and the Scientific School, be placed under the control of one Faculty.

(2) That in the opinion of the Academic Council it is highly important that the College scholarships be made available for all students under the control of this Faculty.

(3) That, with a view to lower the average age at which Bachelors of Arts of Harvard College can enter the professional schools and the Graduate Department, the College Faculty be requested to consider the expediency of a reduction of the College course to three years, by one or the other of the following plans:

(*a*) By giving the degree of A.B. at the end of the present Junior year.

(*b*) By putting the terms of admission to the Sophomore Class on a par with those prescribed for admission to that class in the better New England colleges, and ultimately abolishing the Freshman year by a plan similar to that suggested by the Dean of the College Faculty.

It will be remembered that the original proposition of the Medical Faculty was, that the degree of A.B. be granted to all undergraduates subsequently taking the longest course of study offered at the professional schools after three years' attendance (at the end of the Junior year), in the Academic Department: the professional degree and that of A.B. to be given simultaneously at the end of the professional course, it being understood that the requirements of each should have been fulfiled. A subsequent modification suggested to this proposition was that the degree of A.B. be given at the end of the first year of the professional course, instead of at the close of that course.

We are glad to be able to report the prospect of a favorable action upon this proposition by the Academic Council. The changes proposed are really nothing more than the legitimate and necessary outcome of the previous changes which have been made of late years in the Academic course. The recognition of the embarrassments involved in the present situation is the important thing, the precise form which shall be given to a modification of the existing situation is of less consequence.

THE CAUSATION AND TREATMENT OF CHOLERA MORBUS.

IF epidemic cholera be due to the local action in the intestinal canal of a special microbe, as is generally held by those who accept the germ theory of infectious diseases, it would seem that cholera morbus, which so resembles the former disease in its essential characters, might also be due to a microbe, though of a less malignant nature. Such considerations have led Liebermeister to reckon cholera nostras among the microbic diseases, although there is no evidence that it is *infectious*, at least, in the way in which this term is commonly understood. "It bears the same relation to true cholera," says Liebermeister, "that varicella bears to small-pox." The discovery of Finkler and Prior, who claim to have found in the dejections of patients suffering from cholera morbus bacilli, bearing a strong resemblance to the comma bacillus of Robert Koch, would have great importance if it should be hereafter shown that these bacilli are constant, and have an etiological relation to the disease in question.

Certainly, however, in the present state of medical science, there is not sufficient warrant for classing this so-frequent malady of hot weather among the infectious or bacillary diseases. Its causal agent seems much more likely to be a poisonous ptomaine generated by the decomposition of food — a poison which acts as an irritant to the gastro-intestinal nerves, paralyzing the vaso-motors, and thus giving rise to an excessive outpouring of serum, to vomiting and diarrhœa. This view is favored by the sudden onset, the rapid development of symptoms, and the dangerous collapse.

The experience of practitioners generally corroborates the above view, that attacks of cholera morbus are ordinarily caused by some fermentative change in the ingesta, and here it is principally the quality of the ingesta that is operative, unripe fruits or vegetables, and food that is relatively indigestible (baked beans, fried clams, berry-pie, etc.) being most likely to provoke an onset. The patient, on being interrogated, will generally refer his sickness to some indiscretion in the quality of the food which he has eaten. It is true, also, that eating to excess, even of simple food of relatively easy digestion, may be followed by an attack, and it is probable that sometimes the free drinking of ice-water may have the same result. What one may eat at one time with impunity, may, at another, when, by heat or overwork, the organism is enfeebled, have disastrous effects.

All are agreed that the most powerful predisposing

cause of cholera morbus is hot weather. Excessive heat exhausts the nerve-centres, depresses the vital tone, and thus renders the organism less capable of reacting against the exciting causes of disease, while at the same time it increases the rapidity with which perishable articles of food decay and become injurious. This is well shown in the behavior of a kindred disease, cholera infantum, under the influence of dog-day weather, and every physician has witnessed both the amelioration accompanying the advent of cooler days, and the exacerbation which attends the prevalence of a high temperature. The quality of the atmosphere, too, has much to do with promoting or retarding the manifestations of all forms of cholera, which, certainly, are greatly favored by damp, as well as hot air, and by air contaminated by noxious emanations. It will not do, also, to omit the influence of drinking-water. The offensive exhalation from a filthy alley, which had been recently cleaned, was the exciting cause of a fatal epidemic in a London school, and Levier recounts an epidemic caused by the drink-water during the winter in Berne.[1]

In the treatment of cholera morbus, prophylaxis is of the first importance. He who would avoid attacks must live temperately, and shun over-heating and depressing emotions. A robust dietary and "high living" when the digestive and assimilative powers are relatively enfeebled is irrational, and sure to result in mischief. But, unfortunately for the patient, the physician's services are generally sought at a time when something besides prophylaxis is demanded. The tableau is sufficiently familiar: there are cramps, colic, vomiting, purging, and collapse. Here, as has long been known, there is one remedy that is sovereign, that may almost be regarded as specific, and that is opium.

The late Dr. George B. Wood used to give, every half-hour or hour, a powder containing one-sixth-of-a-grain each of calomel and opium. For the opium, was sometimes substituted an equivalent dose of sulphate of morphia, and his practice and teaching was largely followed. Very gratifying results were generally obtained. In the course of two or three hours, the painful and dangerous manifestations were allayed. The stomach would generally retain the opiate, placed dry on the tongue, and washed down with a fragment of melting ice. All drinks were for a time strictly forbidden, little bits of ice being permitted from time to time. Then, as the vomiting subsided, mild diluents, and finally, nutrients were gradually allowed. Revulsives to the surface were always ordered, but it was seldom found necessary to begin with an evacuant treatment.

While the past twenty-five years have not much improved on this mode of treating cholera morbus, doubtless the substitution of the hypodermic injection of morphia and atropia has been a real gain. One centigram of morphia, with one-half milligram of atropia, is generally sufficient. It is, in fact, seldom found necessary to repeat the injection, which, if made the second time, should be made without the atropine. Much more prompt and thorough relief is obtained by this plan than by the old calomel and opium treatment. Calomel is still given, both in minute and in full doses, by some practitioners, but cases seem, in our judgment, to do as well without it. Bismuth, hydrocyanic acid, carbolic acid and alkalies are sometimes useful adjuvants. The heart's action may be sustained, and collapse combated, by subcutaneous injections of ether or whiskey, but, as Johnston remarks, "the morphia will be the best and quickest stimulant which can be used; it will, therefore, be useless in most cases to administer brandy, camphor, chloroform, or other remedies of that sort."

Cholera morbus has been known from the most remote times. Hippocrates and Galen well describe the congeries of symptoms, but Sydenham's description of the epidemics in England, 1669–72, is the earliest account of the disease in modern literature, and it was he who gave it the name cholera morbus.[2]

[1] Johnston in Pepper's System of Medicine, Vol. II, p. 721.

[2] Pepper's System of Medicine, Vol. II, p. 720.

MEDICAL NOTES.

— *Science* has had a "*symposium*" of milk; we may add of distillery milk or "swill milk." The sanitary authorities who responded to the request of the editor for their opinion as to the healthfulness of milk from cows fed on brewery grains, evinced a surprising variety of opinion. A majority naturally object to such milk, but quite a number consider the case against it as "not proven," and ascribe such ill results as appear to have followed its use to insanitary conditions prevailing in the stables and associated with the care of the milk.

— A writer in *Harper's Bazaar* makes a pretty close diagnosis for a layman, as to what ails the modern girl, at least a good many of her. It is well deserving of record as an *indicatio causalis* in the disease which is so often the despair of the doctor. "The modern girl hardly knows what she wants, whether it is the higher education, an æsthetic wardrobe, love or fame. She plays tennis and progressive euchre, and flirts and does Kensington work and reads Herbert Spencer, and very often writes; she dabbles in music and talks theosophy, and if there are more things in Heaven and earth than are dreamed of in her philosophy one questions what they can be. Withal, she is as restless as the wind. She does not love the quiet of home; she lives on excitement; she goes to Europe, to the springs, the mountains, the theatres, the receptions, if she can get there, or to the modiste; she can always fall back upon clothes as a diversion, and, when everything else fails, she has the nervous prostration and a trained nurse. In fact, the chief trouble with the modern girl, be she rich or poor, is that she either does too much, keeps her nerves on the strain, and by and by goes to the other extreme, and does literally nothing but consume drugs, talk of her ills, and consult the Christian scientists, or she has no real interests, fritters away her time in shallow pursuits,

becomes pessimistic and dyspeptic, dissatisfied with herself and all the world, cries, and questions if life is worth living, and feels especially blue on holidays. The remedy for all this is, perhaps, an object in life; those who are well and unselfishly occupied do not question if life is worth living; they know it is; and whether they are busy in the shoe factory, behind a counter, at the fireside, in the kitchen or the dining room, so long as they are busy and not shirking or reaching forward for something more congenial, and neglecting present duty, their minds are at rest and uninvaded by despondency. One of the best remedies for depression of spirits is the effort to bestow happiness; it has been known to prove effectual when all other methods have failed, when novels and new gowns and cod-liver oil and bovinine and bromide, when admiration and flattery, are no more serviceable than an abracadabra or any heathen spell. Melancholy or other ills of this nature are the direct result of a too strong egotism, and an absorbing interest in others is a safe and agreeable medicine, and is usually the last thing a modern girl tries."

NEW YORK.

— Special efforts are at present being made by the Health Department to prevent, as far as possible, the excessive crowding of tenement-houses, which is the source of so much disease and mortality. The inspectors have, consequently, been ordered to report all cases where the overcrowding is due to the fact of boarders being lodged, in addition to the members of the family, where there are not four hundred cubic feet of air for each adult, and two hundred for each child under the age of puberty, and where the ventilation is insufficient. A number of houses in the down-town streets have also been ordered to be vacated, as unfit for human habitation.

— At the last meeting of the Board of Health sixty-one physicians were reported for failing to report cases of contagious diseases within the time prescribed by the Sanitary Code, and such of them as are unable to present a satisfactory excuse will be prosecuted. On motion of Commissioner Bryant, the following physicians were invited to inspect and make criticism upon the arrangement and management of the Reception, Willard Parker and North Brother Island Hospitals, where those suffering from contagious diseases are cared for: E. G. Janeway, J. O'Dwyer, Stephen Smith, C. R. Agnew, A. Jacobi, and D. M. Stimson.

— On the 4th of August, Dr. Edson, of the Health Department, with the aid of the food inspectors and police, seized over a ton of decaying fruit and vegetables on the east side, down town.

— Dr. Leo Sommer, a Hungarian investigator, who had received the permission of the Mayor and the President of the Board of Health to experiment upon the dogs in the city pound with hydrophobic inoculations, has been prevented from carrying out his inoculations by the agents of the Society for the Prevention of Cruelty to Animals, who claim that, under the law as it now stands, such experiments can be performed only under the authority of some regularly incorporated medical college or university in the State, which authority Dr. Sommer does not possess.

— Since the erection of the Brooklyn Bridge, a number of individuals have intentionally jumped from it into the river below, but, on August 1st, a young man who was assisting some workmen engaged in painting the iron-work accidentally fell from the bridge. He struck the water, one hundred and twenty feet below, chest-first, and though he was unconscious when rescued, he soon recovered his senses under appropriate treatment. He was taken to the Chambers Street Hospital, where it was ascertained that he had received a fracture of the sternum, but beyond this and one or two slight bruises, he was apparently uninjured. According to the last accounts, he was doing perfectly well.

Miscellany.

SPONTANEOUS RUPTURE OF THE CORD.

RUPTURE of the umbilical cord in labor is a comparatively rare accident. It has occasionally occurred when a woman has been surprised by the expulsion of the child while she was standing, the child falling to the floor, for a sudden force less than the weight of the child will cause the cord to give way.

But can there be a spontaneous rupture, if the woman be delivered in bed? This is a very important question in medical jurisprudence. For example, if a mother be found with a recently born child that is dead, the death having been caused by the bleeding from a ruptured cord, that rupture occurring at the umbilicus, or at some other part, one might hastily conclude that the injury was done by the mother or by some one else, and its purpose was to kill the child. Some cases, however, reported by Budin, in the *Annales d' Hygiène Publique* for June, 1887, prove that the conclusion might be quite unjust; in other words, spontaneous rupture of the cord may occur where there has been no interference whatever, and the mother was delivered in bed. The number of cases of this accident presented by Budin is four, the first by Schatz, the second by Dupuy, and the other two occurred in his own service in La Charité. In neither of Budin's cases was there any relative or absolute shortness of the cord, and it was of usual size; the rupture occurred solely from the utero-abdominal contractions which expelled the child. — *Medical News.*

AN UNUSUALLY RAPID CASE OF GRAVES'S DISEASE.

Dr. J. MICHELL CLARKE recently reported to the Bristol Medico-Chirurgical Society a case (also described in the *Practitioner* for May) of Graves's disease in a girl of eighteen that proved fatal in six weeks. She came of a healthy family, commenced to menstruate at the age of fourteen, and enjoyed good health until June, 1886. During a menstrual period she then experienced violent palpitation of the heart, frontal headache, and pain in the præcordial region with

nausea and vomiting; the next period was regular and without these symptoms. On August 4th the palpitation returned, though not so severely; but she noticed also that her eyes were becoming prominent, that her throat was larger, and that she was losing flesh without any obvious cause. A fortnight later she was admitted into the Bristol Infirmary, when she presented all the symptoms of a typical case of Graves's disease. There was a great enlargement of the thyroid, and a thrill could be felt in it; the eyes were very prominent; von Graefe's lid-sign was present; and the heart was beating very rapidly, with a forcible impulse and a blowing murmur at the base. There is no mention of sweating or of tremor. At first she went on well, taking arsenic, but then vomiting, and later diarrhœa set in, and she rapidly lost flesh and eventually died on September 13th, the heart's action towards the last having been extremely rapid, the emaciation great, the gums bleeding, and the hair falling out. No changes were found in the nerve centres.

Correspondence.

THE OUNCE TROY AND THE OUNCE AVOIRDUPOIS.

TRENTON, N. J., August 2, 1887.

MR. EDITOR,—In your issue of June 23, 1887, has just come to my notice the very interesting report by Dr. Morse, of Clinton, of a case in which a large quantity of sulphate of morphia was ingested followed by recovery; and it presents a good opportunity to call attention to a very common error, that which supposes a wholesaler's one-eighth ounce of morphia to be equal to one ounce Troy.

One ounce Troy (℥) is equal to one ounce avoirdupois and 42.5 grains Troy over and the one-eighth bottles of the wholesalers contain not one ounce but about 54.7 grains Troy; and if Dr. Morse's calculations are made from the one ounce basis, his patient took, not 51 grains of morphia but about 45.7 grains.

The fact has escaped the attention of many of my friends, and it will not be amiss to call attention again to it. Yours truly,

HORACE G. WETHERILL, M.D.

ANOTHER SHORT CUT INTO MEDICINE.

BROOKLYN, N. Y., August 6, 1887.

MR. EDITOR,—Seeing a communication in your columns headed "An M. D. in Nine Months," reminds me of a similar instance that happened not a thousand miles from this city. The first course of lectures in this instance was taken at Ann Arbor, and the whole course was less than one year. The same college let a man through a few years ago, out of pity, after having decided that he was incompetent, because he attempted (?) suicide.

I for one think it is high time for some of our Medical Colleges to turn over a new leaf. Your truly,

READER.

REPORTED MORTALITY FOR THE WEEK ENDING JULY 30, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	814	402	36.53	9.84	9.84	39.36	27.79
Philadelphia	993,801	485	216	27.09	10.70	2.94	1.26	19.32
Brooklyn	745,108	416	223	35.28	10.08	72	1.92	29.04
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	187	100	33.39	7.42	.53	1.59	25.97
Boston	400,000	289	149	39.20	11.55	.70	.70	29.35
New Orleans	242,750	117	36	19.55	14.45	.85	2.55	14.45
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	103	36	24.25	11.64	6.79	—	13.72
Pittsburgh	210,000	121	68	44.82	8.30	2.49	4.98	29.04
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	106	79	50.76	1.88	—	.94	43.24
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	23	13	30.45	13.05	—	—	30.45
Charleston	60,145	41	18	26.84	7.32	—	—	21.96
Portland	40,000	22	13	68.25	4.55	4.55	13.65	40.95
Worcester	68,383	22	11	40.95	9.10	4.55	—	36.40
Lowell	64,051	45	29	53.28	2.22	2.22	2.22	42.18
Cambridge	59,660	39	24	53.76	7.68	5.12	—	48.64
Fall River	56,863	51	35	60.76	11.76	—	—	52.92
Lynn	45,861	25	14	32.00	8.00	—	—	32.00
Lawrence	38,825	17	12	35.28	—	—	—	35.28
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	27	19	44.44	7.40	—	—	44.44
Somerville	29,992	12	6	66.64	8.33	—	—	41.65
Salem	28,084	19	10	47.34	5.26	—	—	47.34
Holyoke	27,894	19	7	42.08	5.26	—	—	42.08
Chelsea	25,709	—	—	—	—	—	—	—
Taunton	23,674	18	9	33.33	—	—	—	33.33
Haverhill	21,795	13	8	53.83	7.69	7.69	7.69	38.45
Gloucester	21,713	9	7	66.66	—	—	22.22	44.44
Brockton	20,783	7	3	—	42.84	—	—	—
Newton	19,759	12	9	50.00	8.33	8.33	—	33.33
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	9	4	44.44	11.11	11.11	—	33.33
Waltham	14,609	6	3	50.00	—	—	—	50.00
Newburyport	13,716	9	5	44.44	11.11	—	—	44.44
Northampton	12,896	8	4	—	—	—	—	—

Deaths reported 3,102: under five years of age 1,472; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1,109, lung diseases 111, consumption 290, diarrhœal diseases 877, diphtheria and croup 69, typhoid fever 48, measles 30, whooping-cough 30, cerebro-spinal meningitis 17, scarlet fever 14, malarial fevers 14, puerperal fevers five. From measles, Boston eight, New York six, Philadelphia five, Brooklyn and Pittsburgh three each, Baltimore two, District of Columbia, Lowell and Newton one each. From whooping-cough, New York and Philadelphia eight each, Milwaukee four, Baltimore and Pittsburgh three each, Brooklyn, Boston, New Orleans and Fall River one each. From cerebro-spinal meningitis, New York, Milwaukee, Fall River and Somerville, three each, Philadelphia, Portland, Pittsburgh, Lowell and Haverhill one each. From scarlet fever, New York four, Philadelphia and Brooklyn three each, Boston, New Orleans, Pittsburgh and Lowell one each. From malarial fever, New York seven, Brooklyn four, Charleston two, District of Columbia one. From erysipelas, New York two, Boston and Portland one each.

In the 23 cities and greater towns of Massachusetts, with a population of 1,069,576 (population of the State 1,941,465) the total death-rate for the week was 32.86 against 27.41 and 26.37 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending July 16th, the death-rate was 20 7. Deaths reported 3,660: infants under one year of age 1,305; acute diseases of the respiratory organs (London,) 188; diarrhœa 497, measles 152, whooping-cough 132, scarlet fever 50, fever 25, diphtheria 23, small-pox (London) one.

The death-rates ranged from 13.6 in Portsmouth to 31.1 in Preston; Birmingham 17.9; Blackburn 18.8; Bradford 17.4; Hull 16.2; Leeds 22.4; Liverpool 20.7; London 22.0; Manchester 24.5; Newcastle-on-Tyne 22.9; Nottingham 14.7; Sheffield 18.3; Sunderland 17.3.

In Edinburgh 20.0; Glasgow 17.5; Dublin 27.9.

The meteorological record for the week ending July 30, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, July 30, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...24	30.13	78.0	84.0	71.0	93.0	69.0	91.0	84.0	S.W.	S.	S.	12	12	12	O.	F.	C.	1	.16
Monday,...25	30.10	79.0	87.0	74.0	85.0	57.0	84.0	75.0	S.W.	S.W.	S.W.	8	10	8	O.	F.	C.		
Tuesday,...26	30.00	72.0	84.0	68.0	86.0	78.0	93.0	86.0	S.W.	S.E.	E.	5	8	2	C.	F.	F.		
Wednes,..27	29.90	68.0	78.0	62.0	91.0	86.0	95.0	91.0	N.	S.E.	E.	5	6	2	O.	C.	C.		
Thursday, 28	29.94	74.0	85.0	63.0	93.0	85.0	86.0	88.0	S.W.	S.E.	S.W.	6	5	10	G.	C.	C.		
Friday,...29	29.99	76.0	88.0	68.0	84.0	80.0	88.0	84.0	W.	W.	S.W.	8	9	3	O.	O.	C.	3½	.31
Saturday,..30	29.99	74.0	82.0	65.0	98.0	73.0	87.0	86.0	S.	E.	S.W.	3	10	10	G.	F.	C.		
Mean, the Week.	30.02	74.4	84.0	67.0	90.0	75.4	89.1											4½	.41

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; Sl., Sleet; †, Inappreciable.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 30, 1887, TO AUGUST 5, 1887.

SUTHERLAND, CHARLES, colonel and surgeon. Leave of absence extended one month. S. O. 174, A. G. O., July 29, 1887.

FRYER, B. E., major and surgeon. Relieved from further duty at Fort Lowell, Ariz. S. O. 176, A. G. O., August 1, 1887.

MCCLELLAN, ELY, major and surgeon. Detailed as member of a board of survey to meet at the Medical Surveying Depot, St. Louis, Mo., on August 1, 1887. S. O. 173, A. G. O., July 28, 1887.

BROWN, HARVEY E., major and surgeon. Relieved from duty in Department Missouri, and ordered to Jackson Barracks, La., for duty at that post. S. O. 174, A. G. O., July 29, 1887.

GARDINER, JNO. DE B. W., captain and assistant surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 177, A. G. O., August 2, 1887.

DIPHTHERIA AND DEFECTIVE SEWERAGE IN THE MASSACHUSETTS HOMŒOPATHIC INSANE ASYLUM AT WESTBORO.

THE daily papers have made public the fact of the death from diphtheria of six persons, inmates and attendants at the Homœopathic Insane Asylum at Westboro, as well as the serious illness from the same disease of eight or more other persons, who did not die. Besides this, it is said that many others suffered from sore throat. As we learn from the *Worcester Daily Telegram*, the plumbing of the institution has been found to be in a deplorable condition. It was put in, last year, by T. H. Duggan, of Boston, a member of the Boston City Government. The Building Committee, of the Trustees, consisting of two persons, one of whom was a woman, reported last October: "The Building Committee have given close personal attention to every detail of the work, having visited the hospital thirty-nine times during the year, fifteen of which visits occupied the entire day." The *Telegram* says that some of the joints in the plumbing were not leaded at all, putty being used in place of lead, and others were of a most imperfect character. It adds that the attention of the authorities was called at the time to the unsatisfactory character of the work, but it was, nevertheless, accepted.

Shortly after the sewers had been used, foul smells could be detected quite plainly. The attendants complained of scents in the closets and water-sections. One of the kitchen employees said, in February, that she could smell sewer-gas in her sleeping-room. Later on, she was taken sick with diphtheria. The sewage was conducted into a meadow about fifty rods from the institution, and during the heavy north-east storm, the latter part of May, the scent was wafted back to the building. It is said that the city of Boston has come down upon the institution for polluting its water-supply, and that the whole system will have to be changed, and run from one hundred and fifty to two hundred rods the other way.

The same paper adds that the contract for the driven wells required that they should stand a constant pumping of thirty days and thirty nights. On March 17th, when the ground was full of water, and water was standing on top of the ground, the test began, and the wells, of course, stood it. In June, the engineer, it is claimed, was obliged to run the pumps with a very slow stroke, to keep them from pumping air.

Boston plumbers are now at work, and will probably occupy the greater part of the summer in making the repairs, which will involve a very heavy expense.

BOOKS AND PAMPHLETS RECEIVED.

The Alleged Physical Phenomena of Spiritualism. An Account of Two Seances. By H. Carvill Lewis. 1887. (Reprint.)

Natural and Assisted Labors, with especial Reference to the use of the Forceps. By R. M. Griswold, M.D., Manchester. 1887. (Reprint.)

The Relations of the Nervous System to Hæmophilia. Malarial Hæmaturia, etc. Second Paper. By C. H. Hughes, M.D., St. Louis. 1887. (Reprint.)

Practical Thoughts for Physicians. Address delivered before Indiana State Medical Society, May 10, 1887. By G. W. H. Kemper, M.D., Muncie, Indiana.

The Technique of Tracheotomy and Intubation of the Larynx. By Charles Godwin Jennings, M.D., Professor of Chemistry and of Diseases of Children, Detroit College of Medicine, etc. 1887. (Reprint.)

Observations on Police Service and Physique in St. Louis. Essential Individual Hygiene of a Municipal Police Force for the Prevention of Pulmonary Diseases. By Geo. Homan, M.D., Medical Examiner St. Louis Police Department. St. Louis, 1887.

Diseases of the Female Urethra and Bladder. By F. Winckel, M.D., of the Royal University, Munich; and Diseases of the Vagina, by A. Breisky, M.D., of the Royal University, Vienna. Edited by Egbert H. Grandin, M.D., of New York. These two treatises constitute Vol. X. of "A Cyclopædia of Obstetrics and Gynecology." New York: Wm. Wood & Co.

Original Articles.

LAPAROTOMY FOR PUS IN THE ABDOMINAL CAVITY, AND FOR PERITONITIS.[1]

BY JOHN C. IRISH, M.D., OF LOWELL.

It is only very recently that cases of septic peritonitis, and of pus, free or encysted, within the serous membrane of the abdomen, have been systematically treated by abdominal section and drainage. Within the past three or four years, however, quite a number of such operations have been reported, particularly by those engaged in abdominal surgery. But this number is still so small, and the indications for operative interference so indistinctly defined, as to lead me to hope that a report of additional cases will be interesting.

The consideration of pelvic abscesses might properly come within the scope of this paper, as a portion of them, at least, are intra-peritoneal collections of pus. Many of them, too, have been treated by abdominal section and drainage. A portion of these operations have been, undoubtedly, laparotomies, according to the general acceptation of this term, while, in other cases, the operation has not differed from the opening of other abscesses that have pointed externally. I shall omit all discussion of pelvic abscesses, with the exception of those rare cases in which the pus has escaped into the cavity of the peritoneum.

To the treatment of retro-peritoneal, peri-typhilitic, and other extra-peritoneal abscesses, I wish to call your attention only in the event that they have become intra-peritoneal by escape of pus into the peritoneal cavity — an accident that is far more frequent with these than with the pelvic abscess.

As an introduction to the consideration of my subject, I desire to present, with as little detail as possible, the three following cases. Two of them are illustrations of the circumscribed peritoneal abscess; the third is an example of the irruption of pus, that had formed elsewhere, into the peritoneal cavity.

Case I. Under the care of Dr. Lane, of Billerica, to whom I am indebted for the following history: J. L., a young man; age nineteen. At the time of my first visit, April 3, 1884, he was suffering from a general condition of fever. Pulse 100, temperature 102°; bowels constipated and tender upon pressure. This condition continued about ten days, save a fluctuating temperature. Then the bowels began to enlarge, with increasing tenderness on the left side of abdomen, and with decided dulness on percussion. From this time, the pain, tenderness, and fulness of the left side steadily increased. The pulse and temperature varied greatly from day to day, the former ranging from 100 to 130, the latter from 100° to 104°.

May 3d, I saw the patient with Dr. Lane. At this time, there was marked prostration from general septic poisoning. The pulse 120, temperature 103°. Over the left anterior portion of the abdomen, extending about two inches to the right of the umbilicus, and distending the parietes, could be felt a fluctuating mass, uniformly oval, and dull on percussion. An abdominal incision three inches in length was made, through which escaped about three quarts of an odorless, purulent liquid. An examination through the incision demonstrated the parietal peritoneum, and, with the hand in the pus-cavity, there could be felt, on the right side, the agglutinated coils of intestine and the fibrinous partition wall that separated the abscess from the remaining portion of the peritoneal cavity. Although neither the previous history of the case, nor our examination revealed the cause of the abscess, yet its intra-peritoneal origin was clearly shown.

After the cavity had been thoroughly washed out with a mild antiseptic solution, a drainage-tube was inserted, and the usual dressings applied. In a few days the pulse and temperature became normal, and the patient went on uninterruptedly to recovery, which was complete in two months after the operation.

Case II. N. P., Lowell, man, aged twenty-six. A patient of Dr. Chadbourne. In the latter part of December, 1886, an abscess, not due to any appreciable cause, pointed just below Poupart's ligament on the right. This was opened with the bistoury, and about eight ounces of pus escaped. The pus track extended over the os pubis, and deeply within the pelvis. The abscess was evidently extra-peritoneal, and originated somewhere in the pelvic cavity.

Three months later, there appeared on the left side a moderate distension of the abdominal walls. Over a well-defined space were dulness and fluctuation, but no tendency at any point to a spontaneous opening of the abscess appeared.

An incision three inches in length, and four inches to the left of the median line, gave exit to about three pints of a thin, offensive pus. The cavity was washed out, a glass drainage-tube inserted, and the remainder of the wound closed with sutures.

The patient has made an entire recovery, so far as the peritoneal abscess is concerned. From the pelvic abscess, a slight discharge of pus still continues along the fistulous track.

In attempting to solve any possible doubt as to the intra-peritoneal origin of this second abscess, I explored with my hand the pus-cavity, but so profuse a hæmorrhage from the partition walls followed my manipulations, that I was obliged to desist.

I concluded, however, that its site was intra-peritoneal, and have so classed it for these reasons: Because the anterior boundary seemed to be the parietal peritoneum, thickened and covered with a lymph and fibrinous deposit; because the contained fluid had the gross appearances usually found in the encysted purulent effusions of a localized peritonitis; and because the hæmorrhage that I mentioned would readily come from intra-peritoneal adhesions, but would not certainly be expected from the walls of an extra-peritoneal abscess.

Case III. This patient was under the care of Dr. Trueworthy, of Lowell, who has kindly prepared for me the following report of the case up to the time of operation:

Mrs. D., of Lowell, age twenty-five. August, 1881, was thrown from a carriage, and dragged a considerable distance. After the accident, she suffered from great pain and soreness in the lower part of the bowels, and from a menorrhagia, that continued about five weeks. Mrs. D. was married in the fall of 1881, but has never been pregnant. In July, 1882, she had an attack of pelvic cellulitis, from which she recovered slowly and imperfectly. From this time her menstruation was irregular, and her general health somewhat impaired. April, 1885, she had an attack of

[1] Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication by the Society.

perimetritis, that continued with varying severity till July 10th, when I saw her for the first time during this illness. The uterus was enlarged and tender on pressure. A solid mass occupied the posterior cul-de-sac. Over the lower portion of the abdomen, there was a general feeling of fulness. The bowels were slightly distended, and the patient complained of severe pain at the lower part of the abdomen. Temperature 103°, pulse rapid. The acuteness and severity of the symptoms, to quite an extent, subsided during the succeeding few weeks, but the pelvic effusion remained and increased. August 20th, Mrs. D. had a chill, followed by a rise of temperature and an increased severity of the general symptoms. Vomiting became frequent, and the swelling in the hypogastric region reached nearly to the umbilicus. Temperature varied, sometimes reaching 104°. The general emaciation and debility had increased up to September 7th.

At this date I was called by Dr. Trueworthy to see Mrs. D. on account of an alarming prostration that had suddenly supervened. The extreme pallor, anxious expression, and feeble pulse of our patient indicated plainly enough that some grave accident had befallen her.

Stimulants were freely administered, and an hour later an incision along the median line, four inches in length, was made. A considerable amount of pus, at least one quart, was found among the coils of intestines and in the dependent portions of the peritoneal cavity. This pus had come from the rupture of a pelvic abscess, whose existence the preceding history of the case has so clearly indicated.

The entire cavity was thoroughly washed with large quantities of warm water. A long drainage tube was carried well down behind the uterus, and the rest of the abdominal wound was closed.

During the operation it became necessary to sustain the patient with frequent subcutaneous injections of brandy. She bore the shock badly, and rallied very slowly. She went on, however, without any incident worthy of mention, to a recovery that was complete six months after.

In considering the surgical treatment of those effusions more or less purulent, occasionally encysted, oftener diffuse, that one finds in the abdominal cavity, their origin and mode of occurrence become an important subject of inquiry: First, we find pus within the peritoneum from the rupture of an ovarian cyst, of a pyosalpinx, of a pelvic abscess, (as the case just described), from perityphlitic, hepatic and other extra-peritoneal abscesses, that have discharged their contents in this direction. Second, more frequently circumscribed peritoneal abscesses are found, which in other words, are localized peritonites with purulent encysted effusions. In a third class of cases we find the pus a product of a diffuse purulent peritonitis.

Therefore, in discussing the treatment appropriate to those cases of pus within the peritoneum, we are compelled to consider also the various forms of peritonitis, since the latter, in the vast majority of instances, stands in a causative relation to the purulent effusion.

By a somewhat hurried search through the recent medical literature within my reach, I have found reported the three following cases, nearly analogous to Case III, of this paper:

CASE I. Operator, Sonnenburg.[2] A large perimefritic exudation had broken into the abdominal cavity, several weeks after the confinement of the patient. A very acute peritonitis was at once excited. Laparotomy, careful cleansing of the peritoneum, drainage, recovery.

CASE II. Mr. Treves.[3] Woman, twenty-one years of age, with a pelvic abscess following gonorrhœa. At the time of operation the abdomen was tense, tympanitic, distended, and painful on pressure. Upon opening the cavity an acute diffuse peritonitis was found. A quantity of semi-opaque fluid, lymph and pus poured out. Pus welled up from the depth of the pelvis. It was found that a pelvic abscess upon the left side had ruptured into the general peritoneal cavity. Drainage was employed. The patient recovered.

CASE III. Lawson Tait, 1883.[4] The summary of this case I quote from the very exhaustive treaty upon "The Surgical Treatment of Peritonitis," published recently by Dr. H. Truc, of Lyons: "Young woman of twenty years. The existence of peritonitis was not doubtful, and there were also signs of intestinal obstruction. A peritonitis from salpingitis is suspected, for the patient received two years before a vielent blow upon the abdomen. Laparotomy; much pus in the peritoneal cavity; pelvic organs agglutinated. No intestinal obstruction. The right fallopian tube contained pus and had been ruptured. Cure. At the end of several weeks there exist some morbid symptoms that are difficult to describe precisely." These few cases, only four, are indeed of very little value in estimating the measure of success that will follow the treatment of extra-peritoneal abscesses that have broken into the peritoneum, by laparotomy and drainage. In another way they have a great value, for they indicate, as clearly as a much larger number could do, the only mode of treatment that offers in this condition any promise of success.

When other bodies gain access to the peritoneal cavity, they excite a peritonitis more or less acute, and usually a pus-forming one. The degree of acuteness and purulence is in direct ratio to the septicism of the foreign material. The rupture of bladder, intestines, liver, or other visceral organs by blows, the penetration of them by wounds or missiles, produces a diffuse septic peritonitis.

Perforation of stomach or bowels by ulcerations, as in gastric ulcer, typhoid fever, or dysentery, is followed by peritoneal inflammation very purulent and septic. In obstruction of the bowels from various causes, in which no perforation has taken place, we often find a pus-producing peritonitis.

In quite a large number of these cases, laparotomy has been done for the cure of the existing lesions, and only indirectly for relief of the peritonitis. Quite a proportion of them have recovered. Thus laparotomy has cured not only the lesion, for which it was made, but the peritonitis as well.

Excluding those cases in which the patient died soon after the surgical interference, the recorded histories show, usually, that the peritoneal inflammation has been entirely relieved or favorably modified by abdominal section and toilet of the peritoneum.

Peritonitis of a very septic character and with rapidly fatal tendency is not infrequently produced by the rupture or degenerative inflammation of ovarian

[2] Arch. Tocol. 1885.
[3] Medico-Chirurg. Trans., London, March 10, 1885.
[4] British Med. Jour. 1883.

cyst walls. In 1868, Willshire operated successfully for the removal of a gangrenous cyst that had caused a most formidable peritonitis. A short time before, Keith had also had one of these cases that recovered. And, to-day, I believe it is agreed among ovariotomists that the advent of peritoneal inflammation is a most urgent indication for ovariotomy. A large proportion of the patients in this condition in the hands of Keith, Tait, Homans, and others have recovered. That is, not only the tumor has been removed, but the peritonitis, too, has been cured. I think that no more conclusive proof of the utility of laparotomy for the treatment of peritoneal inflammation could be adduced, than these facts afford.

In localized peritonites with encysted effusions, or, as Mr. Bennett has more happily designated them, encysted peritoneal abscesses, there can to-day be no question as to the propriety of immediately evacuating their purulent contents. The only question can be, in regard to the best mode of doing this. For the purpose of showing the excellent results that have followed the treatment of these abscesses by laparotomy I avail myself of the statistical researches of Dr. Truc:

He gives, somewhat in detail, the histories of ten cases. One of them is that by Dr. Adams, of Framingham; another by Dr. Wilson, of Maryland. To these I have six to add, as follows:

One, by Lawson Tait.[5] Abdominal section was made, and three distinct peritoneal abscesses were found. After the operation the temperature became normal. At the time of writing, the patient had not entirely recovered.

The second, by T. G. Thomas.[6] Laparotomy, drainage, recovery.

The third, by Dr. Watson.[7] A woman, aged fifty-eight; supposed to be suffering from an ovarian tumor. Six quarts of pus escaped through the abdominal incision, and the finger passed into a cavity, at the bottom of which the pelvic organs were felt, covered with a flocculent lymph; while above, the wall of the abscess formed a complete partition between the cavity and the intestines. A drainage-tube was used, and the patient made a good recovery.

The fourth, by Dr. Homans. Case not published. Mrs. S., age twenty-eight. In January, 1882, began to suffer from pain and tenderness of the abdomen, and from slight fever and diarrhœa. These symptoms continued till July, when a fluctuating abdominal tumor was found. Percussion note dull anteriorly, resonant in the right flank, less so in the left.

August 3d, ten pounds of pus were withdrawn with the trochar. August 9th, an abdominal incision, four inches in length, was made, giving exit to eight pounds of pus. Abscess cavity was washed out and drainage-tubes were inserted. The patient recovered in about four weeks after the operation.

The two remaining cases are reported above.

The sixteen cases give these results: — Twelve recoveries, three partial recoveries, and one death.

Peritoneal abscesses, in the past few years, have often been treated by evacuation of their contents with the aspirator. Exceptionally by one or more aspirations a cure has been obtained. Generally, however, the sac refills as often as it is emptied in this way. Several of the above cases were first treated by aspiration, but afterwards it became necessary to make abdominal section and employ irrigations and drainage of the pus cavity.

The lessons, as to the management of encysted peritoneal abscesses, which the histories of these sixteen cases seem to teach, are, that the following treatment is not only appropriate, but that it is almost uniformly successful. The operation should be performed as early as possible, to prevent the progressive loss of strength by the patient and to avert the danger, always present, of a rupture of the abscess walls. An incision, anywhere through the abdominal walls, should be made over the most prominent part of the tumor. This should be done carefully, and all hæmorrhage arrested before the peritoneum is opened. After the purulent liquid has escaped and the pus cavity has been thoroughly irrigated with a mild antiseptic solution, a drainage-tube is inserted and the remainder of the abdominal wound closed. I favor this rather free incision, both to facilitate the escape of pus and to allow a thorough examination of the pus cavity, if this should seem desirable. Should such an examination be made with the hand, great care is necessary, for the partition walls of organized lymph bleed very readily and freely.

Acute diffuse peritonitis not due to the escape of pus or other abnormal material into the abdominal cavity, nor to puerperal sepsis, is less frequent than the localized form that has just now engaged our attention. It has, however, great interest for the surgeon, for its natural course is extremely fatal, while surgical interference has shown itself able to save more than one-half of these patients.

General acute peritonitis does, undoubtedly, occur, in which there is no effusion of liquid. Such instances, I believe, are very rare. Of this subject Dr. Truc says, "Purulent peritonitis is the usual form of acute inflammation of the peritoneal serous membrane," and he further quotes Besnier as saying that an acute inflammation of the peritoneum never produces a transparent serous fluid, and that this rule is without exception. That is, that the effusion, which almost always occurs, is to a greater or less extent purulent.

Therefore in this, as in the preceding classes of cases that we have passed in review, the surgeon has to deal with pus in the abdominal cavity. The results thus far obtained by abdominal section, as stated by Dr. B. F. Curtis, are eight recoveries (to which may be added one by Dr. Marcy, of Cambridge, and one by Buchanan, of Glasgow) and three deaths. In the latter, the operation was performed too late to be of any avail.

Tubercular peritonitis is so widely separated by its cause and course of development from the other forms of peritoneal inflammation that we have considered, as to render it a very distinct affection. Yet as the surgical treatment of it, entered upon sometimes through a mistaken diagnosis, has given some brilliant results, it seems important to refer briefly to a few of these cases and note the existing conditions in which laparotomy has been able to effect a cure or great amelioration. At first thought, recalling the pathology of this affection, it would seem impossible that any surgical interference could be other than disastrous. Still, when we remember that many tuberculous joints have been cured by free incision and drainage, this treatment as applied to the abdominal cavity becomes more reasonable.

[5] Lancet, Feb. 20, 1886.
[6] Reported by Buckmaster, Journal Medical Sciences, April, 1887.
[7] Glasgow Medical Journal, 1886.

Spencer Wells[8] reports two cases. In both there was a large amount of liquid. In the first it was serous, in the second of greater consistency but not pus. The peritoneum was covered with tubercular granulations. Both patients recovered, and continued in good health after the operation. Lanois reports a case in which he made an abdominal section. The effusion was purulent. Patient recovered.

Dr. Wylie, of New York, reports two cases cured by laparotomy and drainage. Before this Society in 1885, Dr. Homans gave the history of one in which he made an exploratory incision that was followed by an excellent recovery. Several other successful cases have been recorded.

In all of them there was quite a large effusion of liquid, sometimes serous, oftener sero-purulent. Thus the tubercular form has had one condition in common with the other peritonites, namely, liquid in the peritoneal cavity, and this often containing pus elements.

The patients that recovered were in fair general health, and the only local manifestation of the tuberculous diathesis was in connection with the peritoneum.

An article treating of the various classes of pus-forming peritonites and omitting all consideration of the puerperal, the most septic and purulent of all, would be a very incomplete one. But I have already so trespassed upon your time, that I must be content with a brief reference to a single form of puerperal peritonitis. I refer to that which follows abortions, either accidental or induced, but which exceptionally is seen after labor at full term. Showing itself at a later period after the parturient act, than is the rule with more acute peritonites, it commences with abdominal pain, increased temperature and pulse-rate, all in moderate degree. Tympanites more or less marked is always present. All these symptoms become progressively more severe. Vomiting and diarrhœa supervene, the features gradually acquire a pinched and anxious look, the pulse becomes thready and very rapid, the extremities cold, and the patient dies a few days after the commencement of the attack.

I have made three autopsies in cases of death from peritonitis after abortions. In all of them the post-mortem appearances have been very uniform. I have found from five to ten ounces of thick purulent liquid free in the peritoneal cavity, the intestinal folds bathed with pus and agglutinated more or less by fibrinous adhesions, and the general peritoneum deeply congested, especially in the vicinity of the pelvis. Dr. Draper, Medical Examiner at Boston, in reply to a letter describing the conditions mentioned above, and asking the result of his larger experience in these cases, writes as follows: "My observations correspond closely with your own, in the pathological conditions usually resulting from criminal abortion.

"In nearly all the cases in which death resulted from secondary complications, and not during or immediately after the operative interference, I have found the cause of death to be peritonitis, with the post-mortem appearances which you describe. Usually, I have traced the course of events in *this way:* a sloughing placental site, endometritis, salpingitis by continuity; finally, peritonitis. My cases number twenty-seven, of which more than half have peritonitis written after them."

Upon this subject, Dr. Harris, Medical Examiner, says: "An examination of my records of autopsies for the past ten years shows that generally, after death by abortion, I have found extensive peritonitis, the intestines glued together, and to the peritoneum. The abdominal cavity has contained a large quantity of offensive pus. The pus was largest in amount in those parts of the abdomen to which it would naturally gravitate. There has also been, generally, metritis and salpingitis, on one or both sides. In cases where death has occurred early, the appearances mentioned above have been much modified, or altogether absent."

Against this form of purulent peritonitis, medical treatment has no resources. It is in every instance necessarily fatal. I know of no case in which surgical interference has been attempted in the treatment of peritonitis following abortion. Yet, since abdominal section, with irrigation and drainage of the peritoneal cavity, as we have seen, has combatted successfully other forms of peritonitis, septic and purulent, like this, I think we may reasonably hope that laparotomy may, in the future, save, at least, a portion of these unfortunate patients.

Mr. Tait, who can speak upon the surgical treatment of peritonitis in general with the authority of an experience greater than that of any one else, says, in a written communication to Dr. Truc:

"In the presence of a grave peritonitis, I occupy myself but little with its cause and character. I first freely open the abdominal cavity, and then conduct myself according to the indications furnished by direct inspection."

Finally, an investigation of the causes that give rise to purulent effusions within the peritoneum, and a consideration of the results obtained by surgeons up to this time by laparotomy, tend to the conclusion that, whenever pus exists in the cavity of the peritoneum, our only resources are in abdominal section, irrigations, and drainage.

The further lesson unmistakably taught is that this simple operation will have a more extended field of usefulness than almost any other that has been an outgrowth of the parent operation, ovariotomy.

[8] Tumors of the ovaries and uterus. Wells.

CARLSBAD.[1]

BY HORATIO N. BIGELOW, M.D.

Chronic Conditions of the Stomach:

Catarrh. "Some medical men think that the mineral waters of Carlsbad are indicated neither for patients either in the tonic or atonic form of catarrhus ventriculi. I cannot, however, share this opinion; from my personal experience, on the contrary, I am happy to state that I have obtained remarkable results in these cases (of course not accompanied by organic derangement), by a treatment quite in opposition to that usually applied in cases of catarrhal affections of the stomach; by substituting a different diet, and principally by directing them to use the waters in a different way. These must be taken in a cooler state, and only in minimal quantities of from three to six ounces, twice daily. Should constipation set in, Carlsbad salts and all other purgatives are to be avoided, and only cold injections to be used. The catarrhal affections of the stomach frequently extend into the duodenum (catarrhus gastroduodenalis), and further into the larger, and in long-standing cases also the smaller biliary ducts, so that stagnation of the bile

[1] Concluded from page 124.

and jaundice supervene. It is evident that Carlsbad is especially indicated in such cases, and the use of its waters attended with the greatest success." (Kraus.) I have been much struck with the readiness with which Dr. Grünberger meets each symptom in these troublesome cases. How very carefully he regulates the diet, changing it, in some seemingly insignificant detail, to meet a fresh emergency. How well he handles the epigastric pain, and how scientifically he found means to remedy the constipation, which depends upon so many different causes. Of course, all this can only come of an exceedingly large experience. When a physician sees daily during the season from forty to seventy-five cases, all with faulty digestion or used-up livers, it is not to be wondered at that he should reach a precision in diagnosis and a tact in therapeutics which the ordinary general practitioner can never reach.

Uric Acid Diathesis. "In gout, the so-called uric diathesis with or without dependent catarrh of the pelves of the kidneys, bladder, and urethra, renal calculi, and the like, it is a matter of common experience that all alkaline waters, including those of Carlsbad, are beneficial by lessening the irritation caused by the acid, but chiefly, according to Leichtenstern, by their washing out that which stagnates in the tissues and joints, their oxidation of uric acid into urea in the body having no proof." (Page.)

The experience of the leading physicians here is to the effect that *all* forms of *gout* will yield to the use of Carlsbad waters directed by intelligence. While they have no influence whatever upon chronic indurations, the deposits capable of absorption will generally disappear. Also in gravel, the waters are strong enough to dissolve these formations in the tubes, and to eliminate them entirely by increasing the flow of urine. And what I have written in the foregoing conditions will apply equally well to dyspepsia, chronic constipation, intestinal catarrh, catarrh of the bladder, anæmia and diarrhœa (irritative and eliminative). "Another form of dyspepsia occurs in pale, anæmic persons, as in young women who suffer from chlorosis. There are tenderness and pain in the epigastrium, aversion to food, weariness of the whole muscular system, and palpitations occur on making the least effort. My friend, Dr. Grünberger, of Carlsbad, gives a lively description of the contrasted sufferers who seek relief at the springs. 'To the pale miss, who answers to the above description, her companion at Carlsbad offers a striking contrast. He is well nourished; his rubicund face declares that he knows the delights of dining, and that he takes frequent pleasure in champagne, sherry and brandy. When you remark his absence for two or three days at a time from the morning promenade around the springs, you may be sure that the gout, in addition to dyspepsia, has him in keeping; he suffers acutely from effusion into one or more of the principal joints, and plenty of uric acid is to be found in the deranged secretions. In spite of the waters, all seems to be going wrong. But after a cure continued through a few weeks, the sharp contrast between the two invalids is wonderfully lessened. The pale miss is invigorated, her appetite increases, she has gained in weight; while the gouty effusion of her companion is gone, his step is firm and sure again, the dyspeptic symptoms are relieved and the action of the digestive system has again become normal.'" (Harper's, 1883).

Matters of Interest to Gynæcologists. Pale, anæmic women, who won't get fat, despite our utmost endeavor, who never menstruate sufficiently, or painlessly, whose sleep is never wholesome, and whose aches and pains are legion and cannot be located, almost always do well in Carlsbad. Now I attribute this to many reasons. If the lining membrane of the uterus be adenoid in nature and structure, as recently demonstrated (Johnstone, British Gynæcol. Society), it will be subject to the same irregularities and deficiencies of blood-supply that control similar tissues. Again, there seems to be more than a casual relationship between portal circulation and menstruation. I have not infrequently noticed that many women would menstruate much better when the liver functioned normally. Most of these anæmic women are victims of constipation — a mean, nasty stoppage that baffles the physician's art. The Carlsbad water overcomes the torpidity of the intestine, it stimulates the liver, and it supplies the blood with something that was wanting; that is, it enriches the arterial supply. When the whole system begins to participate in the change, the uterus *must* follow suit. Menstruation approaches normal, the appetite is strengthened, sleep improved, constipation dissipated, and the whole constitutional tone is improved.

Chronic Metritis, with dislocated Uterus fixed by old Adhesions. It is quite common to find women here for treatment for enlarged livers who have also conditions such as this. It is fortunate that the Moor baths can be taken here just as well as at Franzensbad, and that their use does not at all interfere with the use of the waters. From close observation of many cases, I know of nothing half so potent for good as these Moor baths in women who have had attacks of para or perimetritis, or who have chronically enlarged uteri. The cases that came twice a week to the clinic of the Gynæcologist, that patiently pay their fees and never get better, the pale faces that haunt our slumbers, murmuring ever the sad complaint "You take our money but you do us no good," are just the ones that will bless the physician who sent them to Carlsbad. Indeed, *I* don't know of anything else that will alleviate the suffering of these women. It is well to remember when sending patients here for troubles other than pelvic, that the special disorders can also be treated here, coincidently with the liver, should such co-exist.

Of Interest to Dermatologists. As I know little or nothing of skin diseases, and as I have seen very few "cutaneous" patients here, I must take the dictum of Dr. Kraus, who says: "Diseases of the skin only have to be considered so far as they are connected with stagnation of the blood or with disorders of the abdominal organs, and there is no doubt that the regulation of the circulation, and the amelioration of the debilitated constitution will have a beneficial influence on the healing of some diseases of the skin, constituting, in fact, the necessary conditions for their entire cure."

The use of the Carlsbad waters may be recommended especially in cases of:

(*a*) Erysipelas migrans, principally if the patients show a constitutional tendency to this affection.

(*b*) Sclerosis of the skin, showing itself on the calves of the legs, in consequence of repeated attacks of erysipelas.

(*c*) Urticaria.

(*d*) Pemphigus, especially in its milder forms.

(*e*) Eczema, likewise in its milder forms.

(*f*) Morbid tendency to furuncles, so frequently met with, unconnected with diabetes mellitues.

IV. CONTRA INDICATIONS.

Kafka writes as follows:

(1) All the febrile phlogistic diseases and the acute exanthemas.

(2) An excessive irritability of the vascular system, if the menstruation and the hæmorrhoidal flux are too copious.

(3) Tuberculosis and pulmonary phthisis, all considerable suppuration of external or internal organs; ulcerated carcinoma of all organs, syphilitic ulcers.

(4) Weakness from old age and all morbid conditions, with feebleness of the vital power and anæmia.

(5) The following organic lesions: aneurism, atheroma of the great vessels of the heart and anchylosis.

(6) Pregnancy in very feeble women, who are very thin, anæmic, and with a disposition to miscarriage and to hæmorrhages.

I would add to this list —

(7) Bright's disease of the kidneys.

(8) Diseases of the brain and spinal cord.

(9) Malignant degenerations, (as the waters often hasten death).

V. THE MODUS OPERANDI OF THE CURE.

Kraus sums up as follows:

A. *By coming into immediate contact with the mucous membrane of the stomach and the intestinal tract, the waters act* —

(*a*) As soothing, invigorating, and regenerating agents on the nerves of the stomach, whence the increased appetite and the pleasant, warm sensation propagating itself from the stomach over the whole surface of the body.

(*b*) In a healing way in cases of simple erosions and ulcers of the mucous membrane of the stomach and duodenum.

(*c*) As correctives of the too abundant secretion of acids in the intestinal tract.

(*d*) As gentle purgatives and accelerators of the peristaltic action, removing the viscid mucous secretion, and mechanically dissolving the hard, dried-up fæces; as a general result of these influences, the mucous membrane of the intestinal channel is energetically stimulated to increased secretion.

B. *Being absorbed by the blood, the waters act* —

(*a*) By dissolving the concentrated and obstructed bile in the biliary ducts.

(*b*) By changing the condition of the blood, which, in its venous state, principally stagnates in the mesenteric vein and its branches; thus the waters regulate and increase the venous, and consequently, also the arterial circulation.

(*c*) By relieving the lymphatic glands and vessels of the thick and concentrated lymph contained in them.

(*d*) By removing the fat accumulated in the subcutaneous areolar tissue and other organs, and by causing old inflammatory residues (for instance, in the peritoneal cavity) to be absorbed.

Fundamental principles to be taken into consideration when prescribing the waters for internal use:

(1) The cooler springs are only slowly absorbed by the system, while the hotter waters are taken up more rapidly.

(2) Patients whose action of the heart has to be watched with care, and whose vital energy will not submit to much stimulation, must partake of the cooler springs.

(3) For acting more energetically, the hotter springs are made use of, if the constitution of the patient will permit. The particular spring selected is not to be changed without sufficient reason.

(4) The waters, as a rule, are taken in the morning, before breakfast, as the empty stomach will require less time to absorb the waters.

(5) The quantity for daily use is not to exceed six tumblersful (thirty ounces), and it is advisable to begin with two or three tumblersful, and in many cases, even with less. After several days, the quantity may be increased, this depending partly on the individual constitution of the patient and on the respective disease, partly on the effect already attained, or still wished for.

(6) The tumblerful of the water is to be consumed slowly (in from one to three minutes), a pause of twenty minutes or more being made between each tumbler, according to the state of the patient's digestion, and moderate walking should be resorted to during this time.

(7) After finishing the last tumblerful, the patients ought to walk about until they feel hungry for breakfast, which generally will be the case in about one hour's time.

VI. THE HYGIENE AND DIETETIC REGULATIONS.

"In general, starchy food, sweets, butter, fats and gravies, salads, pickles, condiments, and the like, are prohibited; also alcoholic beverages, particularly champagne and Rhine wines, although a moderate amount, at dinner, of claret, or a glass or two of Madeira or sherry, may be allowed to the aged or infirm, or those in the habit of drinking; ice-water is also forbidden, and in place of it, is used the Gieshübler, an excellent table-water, that comes from the Gieshübler simple acidulous spring in the neighborhood. Bread is thoroughly roasted in slices, called rusks or swiebacks, besides which, at dinner, is allowed in most cases a moderate amount of untoasted bread, made up with or without butter (Kaiserbrod, Wasserbrod). Fish, except salmon, which is thought to contain too much oil, and such meats as roast beef or mutton, beef-steak, mutton-chops, and poultry without dressing, are allowed in moderate quantities; also, green vegetables, such as string-beans, spinach, cauliflower, and cabbage. Included in the cure is exercise of some sort, chiefly walking. For this purpose, a variety of delightful walks have been constructed, and are kept in thorough repair. In this respect, and in the thorough system used regarding all the factors of the cure, managers of many of our American watering-places would do well to take lessons from their Bohemian friends across the water." The Gieshübler Sauerbrunn is a great institution. It is one of the best of table-waters, and is valuable in some forms of dyspepsia, in the uric-acid diathesis, gravel, stone in the kidneys, gout, and diabetes (see Garrod). Now, as the water is not to be highly recommended in Carlsbad, and as most patients are allowed no beer and little wine, Gieshübler becomes a boon beyond all estimate. Between two and three million bottles are exported each year to England and France. The bread and coffee in Carlsbad are beyond all praise. Nowhere in the world does one find better. The beer is highly spoken of, but fat men longing to get thin are

also told to avoid beer as religiously as ascetics do the Devil. Coffee is permitted in moderation, but most physicians here would much prefer that their patients should shun it altogether. Milk is taken hot by those with sensitive stomachs. In aggravated dyspepsia, nothing is permitted at first but hot milk; later, a thin chicken-soup; then chicken-hash, made of the white meat, and the yolks of two raw eggs; then a little raw Westphalia ham, chopped up fine, and so by gradual steps, to a full, but simple meal. The daily life, so far as it is possible to do so, is spent out-of-doors. Even if one be very weak, and cannot walk much, he should sit for hours in the sun, listening to the music, and watching the crowds of people moving by. Warm clothing is always needed, and one cannot be too careful about exposure, as the system becomes superlatively sensitive after taking the mineral waters, and that reminds me to say, just here, that no one should even come to Carlsbad without a variety of changes. Winter clothes, autumn and spring clothing will always be necessary. Of summer clothing, I cannot write advisedly. It is now almost June 1st, and there seems to be no prospect of any immediate necessity for anything thinner than winter-flannels; indeed, some gentlemen still appear in fur overcoats.

VII. THE BATHS.

(*a*) Common or sweet water baths. (*b*) Mineral baths. (*c*) Moss baths. (*d*) Vapor baths. (*e*) Douche baths. (*f*) Steel baths. (*g*) Sauerbrunn baths.

The entire medical experience of Carlsbad for hundreds of years bears witness to the beneficial influence of baths in certain diseases. The medical man who wrote an article in *Harper's* upon Carlsbad says: "The peat-baths, or mud-baths, have gained much in popularity within a few years, and a large building has been erected since 1880, devoted exclusively to this singular form of the cure. The material employed for the mud-bath is a rich black peat; it comes by rail from the neighboring watering-place of Frunzensbad, some two hours distant, where Carlsbad owns a tract of moorland, which supplies the peat. It is rich in mineral constituents, and it makes what may be called a clean mud. First pulverized, but not too finely, then screened and freed from accidental impurities, it is mixed with the hot Sprudel water when the bath is ordered, and rolled in a stout wooden tub to the bath-room, where it stands, fuming, by the side of a similar tub filled with warm, soft water. One's first mud-bath is an odd experience. I confess having felt a slight reluctance to immerse myself in this malebolgian mass of peat-mud, although it fumed not unfragrantly, and its temperature, 102° F., was delightful. It seemed like undoing the results of a lifetime's ablutions. The difficulty is to get your first foot into it; that done, there is no more hesitation; you sink luxuriously into the warm, fuming mass. Mortal body was never received into a more deliciously soft embrace than that of this semi-fluid peat. Its viscous resistance to my movements, its weight and warmth, the clinging titillation of the unresolved lumps of mould, its faint and fragrant earthy odor, all combined to make a strange experience, even for one who has tried many baths in many places. It was no less delightful than strange. Whether for the invalid or the well man, the peat mud-baths at 31° Réaumur are one of the most luxurious enjoyments. I took them as a pleasurable incident of a visit made for the purposes of specific study; but if I should ever contract to furnish an earthly or a Mohammedan paradise, I should fit up an entire basement-story of the paradise with mud-baths." I purposely avoid all discussion about the way in which these baths accomplish the ends claimed for them by clinicians, because but very little is known *absolutely* upon the subject. Dr. Page, in his article in the *New York Medical Record*, enters somewhat elaborately into the matter, but arrives at no precise conclusion. In some diseases of women, the moor-baths *do* reach results beyond the grasp of any other treatment. They do this, in my very modest opinion, by pressure, by heat, and by irritation.

VIII. THE CITY OF CARLSBAD.

Carlsbad is —

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21	hours from Bremen.	30	hours from Lemberg.
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There are in Carlsbad about nine hundred or one thousand houses all of which are pensions, or houses in which rooms are rented. Indeed, one wonders where the actual all the year round inhabitants of Carlsbad live, as there seem to be no private houses. If no previous arrangements have been made, it is

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> Was ich dort gelebt, genossen,
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— A correspondent writes to the *Pacific Medical and Surgical Journal* of a patient with "incarcerated" inguinal hernia, who, taxis having failed, was taken to an hospital for operation, riding nine or ten miles on a spring mattress on a spring wagon. The jolting which he had received on the passage had reduced the hernia when he reached the hospital.

NOTES OF PROGRESS IN PHYSIO

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NOTES OF PROGRESS IN PHYSIOLOGY.[1]

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Instructor in Physiology in the Harvard Medical School.

RECENT OBSERVATIONS ON THE HEART.

The profession has long been familiar with experiments on the isolated heart of the frog, and such work has led to very important results. I infer from the slowness with which the information manifests itself in medical literature that many do not yet know that a very ingenious method has been worked out for doing similar work with the mammalian heart. We owe this addition to our experimental resources to Prof. Martin[2] of Johns Hopkins University, although he modestly shares it with various pupils, and calls it the "Baltimore method." The excised frog's heart beats vigorously for a considerable time, with very little attention, and adapts itself quite easily to a change of diet, so that it has been comparatively simple to keep it going long after the body to which it belonged has begun to break up in postmortal putrefaction. The mammalian heart, on the other hand, had usually been considered a particularly intractable organ. When removed from the body it would beat after a fashion for a few minutes and then die. No convenient plan had been devised for continuing its activity so as to permit much study of its behavior apart from the complex nervous and metabolic relations which belonged to it while in the living body. Martin came to the conclusion that the method of nourishment was the main cause of the difficulty in manipulating the mammalian heart. The frog's heart has thin walls and takes what it requires from the fluid in which it is bathed; the mammalian heart, on the other hand, is fed through the coronary arteries and derives little or no direct benefit from the fluid in the cavities or about the outside. The problem thus appeared to be to keep up a circulation through the heart and also through its own vessels after excluding the rest of the animal. His method, then, without going too much into details, consisted in shutting off the blood-supply to the rest of the body and sending defibrinated blood through the heart and lungs. This can be done by ligaturing the aorta beyond the arch (using its earlier branches in the thorax for outflow and pressure tubes) and by ligaturing the vena cava inferior and using the vena cava superior for the blood flowing in from a reservoir. The lungs are retained as the most convenient means of aërating the blood, and they are inflated by a respiration apparatus. It would doubtless be practicable to remove these too, and to arterialize the blood by some other method; Martin proposed to use this modification, should it become desirable, but, so far as I have noticed, this plan has not been carried out. Starting then with a narcotized and artificially respiring animal, the influence of the central nervous system must be rapidly destroyed when the bloodvessels going to the head are tied. If now the *venæ cavæ* and the aorta are also tied at suitable points, and a flow of defibrinated blood is set up into the right auricle we have the most favorable conditions for continuing the life of the heart while all the rest of the animal dies. It has proved that under such conditions the heart (dog or cat) will continue to beat for some hours. The organs required (heart and lungs) are retained in the opened thorax simply be-

[1] Concluded from page 131.

[2] Martin. A new method of studying the mammalian heart. Studies from the Biological Laboratory of the Johns Hopkins University, Vol. ii p. 119.

cause this is the very best box which can possibly be devised for the purpose, and the body and the blood food are placed in a large glass case where a suitable temperature can be maintained. Such is a brief outline of the method.

For experiments of this character dogs were found to be most suitable. As a nutrient liquid, the blood of these animals would be best, but Martin found that he got very good results with such blood when diluted with an equal volume of a five-tenths per cent. solution of sodium chloride in distilled water (or with one-third its bulk of a seven-tenths per cent. solution) or even with defibrinated strained calf's blood. Calf's blood proved, however, to be less satisfactory than dog's blood on account of its more readily causing pulmonary œdema and a considerable effusion in the pericardiac sac.

The advantages of this way of working are quite evident. We have to do with the heart itself, for all the numerous extrinsic influences coming from the central nervous system with its complex reflex stimulations as well as the influence of the products of the metabolic changes going on in other organs are excluded. It is exceedingly improbable that the lungs under such conditions can have any direct influence on the action of the heart, and should their presence appear to be in any way detrimental, it will probably be easy to exclude them also.

By means of this method several interesting points have been cleared up. Martin himself examined the influence of blood-pressure on the rate of the heart beat.[6] Previous observers had obtained discordant results even when the extrinsic nerves of the heart had been divided in the living animal. As Martin points out, this might be due to a variety of causes besides the mere raising of the pressure brought about by clamping arteries. It would probably alter the blood flow very materially, and change the pressure of the venous blood entering the heart; and the proceeding would doubtless also affect the temperature of the blood and more or less vary the quality of it chemically. With the isolated heart, on the other hand, it is possible to keep the conditions of temperature and venous pressure comparatively constant during considerable variations of arterial pressure. The quality of the blood flowing only through the heart and lungs will not probably be easily or rapidly changed, and it is always a simple matter to substitute fresh blood whenever necessary.

It was found that so long as the inflow into the right auricle took place at a pressure not greater than that due to a column of blood ten centimetres in height, most considerable changes in the arterial pressure produced by clamping the outflow tubes and measured in the carotid artery, caused no marked change in the rate of the heart beat. This was found to be true for arterial pressures varying from 25 to 160 mm. of mercury for the hearts of small dogs. When, however, the arterial pressure was lowered to less than 20 mm. of mercury an indirect effect seemed to be produced. The heart beats were unaltered in frequency for a minute or two, but then became sometimes slower, probably from a deficient nutrition on account of the low pressure in the coronary arteries. Later experiments made by Howell and Ely showed that for some dogs the danger line lies rather higher, and that when the arterial pressure is lowered to 30 mm. of mercury, the influence of mal-nutrition becomes apparent.

It was also found that the pressure at which venous blood enters the right auricle might be considerable, (due to a column of blood 40 centimetres in height, or even as high as 70 centimetres, according to later experiments) and yet no change in the rate of the heart occur unless combined with an exceedingly high arterial tension. Such a combination is obviously pathological, and probably never occurs normally. The investigation of this point has not, I believe, been fully carried out.

The observers just mentioned[7] carefully examined the influence of arterial pressure on the duration of the systole and diastole, since it is conceivable that although the heart's rate of beating does not vary there may be an alteration in the parts of which a single beat is composed. It was found, however, that changes in arterial pressure between 50 and 160 mm., of mercury had no direct influence whatever upon the duration of the systole or the diastole of the heart-beat in the dog.

In order to test the applicability of the method of pharmacological investigations, experiments were made with blood, to which a small quantity of pure alcohol had been added.[8] The general statement of their result is this:

> "When defibrinated blood containing one-half of one per cent. by volume of ethyl alcohol is supplied to an isolated dog's heart which has been hitherto working with uniformity, the invariable result is a very rapid and marked diminution in the work done (indicated by the quantity of the blood pumped out from the left ventricle) by the heart in a given time. When the blood contains only one-fourth of one per cent. of alcohol, the result is, in most cases, the same, but sometimes is little or none. After the action of the alcohol has been fully manifested, the heart can, in many cases, be restored to its original working state if supplied with defibrinated blood containing no alcohol. Blood containing but one-eighth of one per cent. of alcohol exerts no influence upon the work done by the heart, at least, for several minutes."

It was observed that the change in the work was associated with a marked swelling of the heart in the pericardial sac, although a minute opening had been made to permit the free escape of the lymph, which is apt to collect in these experiments (probably on account of some hindrance to its flowing off). The explanation of this condition is to be sought in a change of the systolic contractions, or, in the words of the paper:

> "The action of alcohol administered in the manner and doses above described is, without primarily altering the force of the heart-beat, to alter its character, so that the ventricular cavity is not obliterated at the end of systole (as in the normal heart-beat), and less so the longer the alcohol has been administered. At first, this incomplete systole is compensated for by a more extensive diastole, so that the difference between the capacity of the ventricle in complete diastole and that in complete systole remains the same as when the organ was normally beating. Consequently, the quantity of blood pumped out at each beat remains as great as before. If the heart be confined in the pericardium, it soon, however, ceases to have room to swell during diastole to a size sufficient to compensate for its incomplete systole; and thenceforth, as the swelling increases, the difference between diastolic and systolic capacity becomes less and less. As the necessary result, the quantity of blood pumped round by the organ is proportionally diminished. Removal of the pericardium prevents this result, at least, for a considerable time."

To what extent the increase would continue after

[6] H. N. Martin. Observations on the direct influence of variations of arterial pressure upon the rate of beat of the mammalian heart. Studies, vol. II, p. 221.

[7] W. H. Howell and J. S. Ely. On the effect of variations of arterial pressure on the duration of the systole and the diastole of the heart-beat. Studies, etc. Volume II, p. 453.

[8] H. N. Martin and L. T. Stevens. The action of ethyl alcohol upon the dog's heart. Studies, etc., II. 477. The results of this investigation have been also made public in other forms. See Medical News for May 5, 1883, and especially the Maryland Medical Journal for September of the same year.

the removal of the pericardium, was not determined in these experiments. It is probable that the effect above detailed is due to a direct action on the muscles of the heart, as has been shown for the action of various alcohols on the heart of the frog. This investigation also suggests that alcohol may do harm in cases where there is a pericardial effusion, and the room for the heart's expansion is limited. On the other hand, it should be remembered, as I have elsewhere pointed out, that Martin, in another account of these experiments, has stated that the amount of alcohol which produces the results above given completely fails to do anything of the kind when introduced into the body by the stomach. Even when introduced by the vein, the effect is inconsiderable or transient. It is evident, then, that the alcohol is absorbed too slowly, and more or less completely transformed elsewhere in other organs or that some other nervous action is produced, which corrects the bad effect on the heart-muscles. Were this not the case, the damage done by alcohol, as it manifests itself in the heart action, ought to be a thousandfold greater and more frequent than it obviously is.

Among the most interesting experiments of this series, seem to me to be those of Martin, showing the influence of temperature upon the pulse-rate[9] of the mammalian heart. These demonstrated quite conclusively that the isolated heart is exceedingly sensitive to variations in temperature of the blood circulating through it. The temperature was varied between 28° and 40.5° C. (82.4°–104.9° F.), the pulse-rate rising or falling with it, as is shown in two curves appended to the paper. (The exact rate of the pulse is of no interest here, for, of course, the removal of the extrinsic inhibitory nerves alters the rate, as compared with that of the heart beating in full continuity with the rest of the body. But it does not appear from any of these experiments that this change in the rate affected the nourishment of the heart.) The temperature considered was the temperature of the blood as it came from the left ventricle; that is, the temperature of the blood which was sent into the coronary artery, and thus into the capillaries of the heart. This had been found to be of more importance than the temperature of the blood supplied to the right auricle, and which, of course, will undergo considerable cooling in the lungs before reaching the left heart and then the muscular tissue itself.

"It is not the temperature of the blood in its cavities which influences the rate of beat of the dog's heart, but the temperature of the blood sent to its capillaries. In other words, temperature changes do not influence the pulse-rate by stimulating the afferent nerves in the endocardium, which then act upon cardio-motor ganglia, but they act directly upon the muscle-fibres or nerve-cells of the organ."

When, then, the pulse becomes more rapid in fever, it is not necessary to assume any paralysis of a cardio-inhibitory nervous centre outside the heart, nor the effect of the products of an altered metabolism upon the heart itself, as an explanation. It may, however, be that such influences are also at work besides the changes of the temperature of the blood itself.

In another paper, the "Baltimore method" has been employed to study the work done by the heart.[10]

[9] H. N. Martin. The direct influence of gradual variations of temperature upon the rate of beat of dog's heart. Philos. Trans. Roy. Soc., Part II, 1883, p. 663.

[10] W. H. Howell and F. Donaldson, Jr. Experiments upon the heart of the dog, with reference to the maximum volume of blood sent out by the left ventricle in a single beat, and the influence of variations in venous pressure, arterial pressure, and pulse-rate upon the work done by the heart. Philos. Trans. of the Roy. Soc., Part I, 1884, 139.

The "work" is, of course, the quantity of blood pumped out, multiplied by the height to which it is raised; that is, the pressure against which the heart forces the blood. This may be conveniently calculated in gramme-meters. Measured in this way, it was found that "variations of arterial pressure from 58 to 147 millimeters of mercury have, practically, no effect whatever on the quantity of blood sent out from the ventricle at each systole," so that, one factor in the calculation being constant, it follows that "the work done by the left ventricle of the dog's heart varies directly as the arterial pressure against which it works within the limits named above."

The results obtained by varying the venous pressure make it evident that "the work done by the left ventricle at each systole increases with the venous pressure, but not proportionally, up to the point of maximum work." As Howell and Donaldson point out, the pressure in the right auricle in these experiments was much greater than the maximum pressure which other observers have met with there normally. This places "the right heart under conditions different from those which exist during life." When, however, the pressure in the left auricle was measured, it was found that the left side of the heart was working under conditions of pressure which could not be considered abnormal. After all, if we leave out of account the aspiratory action of the thorax, "it is certain that the most direct factor in influencing the quantity of blood sent out from the ventricle, and hence, the work done by the ventricle, is the intra-ventricular pressure, by which the ventricle is distended during diastole;" hence the authors consider that they were able "to confirm for the mammalian heart the statement made by Roy, for the frog's heart, namely: 'The work of the heart of the living animal is governed chiefly by the auricles, the ventricle influencing the amount of work done only indirectly.'"

Making use of the influence of the temperature to regulate the rate of beat, it was possible to study the relation of the latter to the work. In this way, the general fact was brought out that "a diminution of pulse-rate, brought about by lowering the temperature of the blood flowing into the heart, causes an increase in the quantity of blood thrown out from the ventricle at each systole, and consequently, an increase in the work done at each systole, and *vice versâ*." The changes of the outflow are not inversely proportional to the change of pulse-rate, and it is uncertain whether any more definite relation exists.

Another important point which Howell and Donaldson endeavored to examine is the amount of blood thrown out by the heart at each beat. Earlier observers had been obliged to use methods against which many objections may be urged. Some had studied the relation existing between the velocity of the blood-flow and the size of the vessels. In this way Volkmann and also Vierordt had calculated that each systole sends out from the left ventricle a quantity of blood equal to abqut $\frac{1}{180}$ of the body weight. In view of the chances of error the agreement in the results of these two observers may be considered almost accidental.

Fick, using perhaps, an equally untrustworthy method, but nevertheless applicable to man, had calculated the proportion as $\frac{1}{1000}$. In the experiments we are considering, it was found that "the mean ratio of the maximum weight of blood thrown out from the

left ventricle at a single systole to the whole body weight is 0.00117 or $\frac{1}{855}$ for a mean pulse-rate of 180 per minute." As the check of the vagus is removed in such hearts the rate is greater than normally. In the only experiment where the rate was nearly normal (120) the ratio of the blood sent out to the body weight, was about $\frac{1}{750}$. It is, of course, an open question how far this is applicable to man. The human heart has a slower heart-beat, and the experiments on the dog with varying the rate, showed an increased outflow for a lower rate.

It may be, however, that varying the temperature of the blood in some way affects the elasticity of the heart, and that the outflow thus obtained is not normal. On the other hand, it would be expected that the ventricle with each diastole would be distended to about its maximum capacity, and variations in the rate ought to have little effect on the amount sent out at each systole. Therefore, the authors conclude, we may not at present draw any very definite conclusions concerning the human heart with reference to the amount of blood sent out at each beat.

It is worth noting that in Martin's article on the effect of alcohol on the isolated heart, an experiment with a teetotaler is reported whose pulse was unaffected by 15 cm. of absolute alcohol in 50 cm. of water. Unfortunately only one experiment appears to have been tried.

Another method for heart work has been proposed by Dr. W. G. Thompson,[11] and has attracted some attention in the metropolis.

It consists in the employment of an ingenious arrangement for obtaining a successive series of instantaneous photographs whose study it is expected will yield valuable results. The apparatus appears, from the descriptions, to resemble one which Marey had already suggested. Although evidently useful for the demonstration of certain relations observable in the movement of the heart, neither the descriptions nor the pictures which I have seen, convince me that such methods are likely to be very profitable.

A new study of the cause of the first sound of the heart, or at least a fresh demonstration of the muscular element of it, has been recently made by Yeo and Barrett.[12] These investigators convinced themselves that when the blood-supply to the heart is shut off by compression of the veins, the first sound continues so long as the heart continues to beat. The method is considered by them an improvement on that of Ludwig and Dogiel (1868) where all the vessels are tied in succession and some blood may possibly be retained. The first sound also remained audible, and the same in quality, when the heart was removed from the body; and "a sound like the characteristic heart-tone" was still distinctly audible when the auricles and the auriculo-ventricular openings (valves) had been cut away, and only the apex of the heart remained beating on the finger-tip. In the words of the authors "a definite and characteristic tone similar in quality to the first sound, is produced by the heart-muscle under circumstances that render it impossible for any tension of the valves to contribute to its production."

[11] W. G. Thompson. Instantaneous photographs of the heart in motion and of peristalsis. New York Med. Rec. 1883, xxix, 360. A new apparatus for the study of cardiac drugs. Ibid. 1886, xxx, 261, 353.

[12] G. F. Yeo and J. W. Barrett. Note on the cause of the first sound of the heart. Journal of Physiology. vi, 145.

Thus the view of C. J. B. Williams, advanced over fifty years ago, receives a new confirmation, and the experiments of Ludwig and Dogiel are again supplemented, for almost precisely the same demonstration of the existence of the first sound, unchanged in quality, when the valves and chordæ tendineæ have been removed, was made by Arnold and Loomis in 1878.[13]

Tarchanoff[14] in a very interesting paper, has reported what seem to be genuine cases of willed acceleration of the heart-beat, although his article has attracted but little attention. Most of the cases of this character hitherto detailed, had not been altogether free from the suspicion that some other influence than mere will power was in play.

While examining the effect of beef extracts on the heart, Lehmann had his attention directed to the fact that the pulse-rate is often easily influenced by circumstances which have not ordinarily been supposed to be of much importance. In the study of this subject which he then made with Bleuler[15] the following general conclusions were reached, but obviously an independent confirmation of them is very desirable:—

(1) Drinking moderate amounts of hot water makes the pulse more rapid; while considerable quantities of cold water slow it. The increase is 3 to 8 beats while the decrease may be as much as 10. (Mantegazza has made a somewhat similar observation [Schmidt's Jahrbucher civ, 346,] and Winternitz in his Hydrotherapie evidently has this influence of cold water in mind.)

(2) Careful covering with heavy bed-clothes increases the pulse-rate along with the sensation of warmth; exposure of the naked body to a lower air-temperature lessens the rate markedly.

(3) Lehmann's pulse-rate was lowered by light reading lacking all excitement, but that of Bleuler was not perceptibly influenced.

(4) Every feeling of burning, pressure, or nausea, associated with the stomach makes the pulse more frequent; the same is true of feelings of fulness in the intestines, and especially in the rectum.

(5) Salts (Na_2SO_4; NaCl; $MgSO_4$), which have no specific action on the heart, influence the pulse reflexly according to the amount of the unpleasant sensations produced in the stomach and intestines. Here the influence of the rectum and of nausea is most marked. The effect of a meal as such, that is, cold food in moderate amounts, appeared to be negative, provided no special sensations in the intestinal tract were produced.

The older experiments of Kemmerich and of Bunge on the influence of beef-tea and extracts on the heart were at variance. The view of the former, that the action of these substances was like that of potassium salts, and, in fact, due to their presence, needed confirmation. Lehmann[16] has called attention to the fact that Kemmerich's experiments on himself show a rather more sensitive intestinal tract than is evident

[13] See J. W. S. Arnold. An experimental inquiry into the muscular element of the first sound of the heart. N. Y. Med. Journ., 1879, xxvii, 337.

[14] Tarchanoff. Ueber die willkürliche Acceleration der Herzschläge beim Menschen. Pflüger's Archiv f. d. ges. Physiol. xxxv, 109, 196.

[15] Bleuler u. Lehmann. Ueber einige wenig beachtete wichtige Einflüsse auf die Pulszahl des gesunden Menschen. Arch. f. Hygiene, III, 215.

[16] K. B. Lehmann. Ueber die Wirkung des Liebig'schen Fleischextracts mit besonderer Berücksichtigung seiner sogenannten Giftigkeit. Arch. für Hygiene, III, 249.

in Bunge's investigations. Suspecting that these differences would explain some of the discrepancies of their results (as a reflex action on the pulse), he set to work to investigate this point. He found that:

(1) Ordinary *bouillon* [250 ccm. warm water, 2.5–5.0 extractum carnis, 4.0 Na Cl (or without)] had only the same effect as an equal amount of warm, dilute, salt solution, or warm milk, or even warm water.

(2) In a considerable series of experiments with larger doses (10, 30, 60 gm.) in lukewarm or cool water, the action on the pulse-rate was very slight, except as due to irritation of the intestinal tract, more especially of the stomach or of the rectum. When nausea or diarrhœa is produced, the reflex increase of the heart's action is evident. It passes away, however, with these other effects; for example, when the rectum is emptied. The action comes on more rapidly than it could if the *absorption* of the potassium salts were the important element, and does not last or increase, as it should if due to some special influence of these salts.

(3) Experiments with KCl [6.0–10.0] in warm or cold water verified this view, as well as the conclusions which Bleuler and Lehmann had drawn from the examination of other salts to which no particular effect on the heart is attributed.

(4) Long-continued doses of the meat extract or potassium salts given to white rats, as well as large doses given for many days to feeble or insufficiently-nourished, or fasting animals (rats and cats), also failed to demonstrate any deleterious action on health or weight. The amounts were varied up to one per cent. of the body-weight, and continued for thirty days. Lehmann also quotes an experience with two feeble children, who could take no milk, and, therefore, received large amounts of beef-tea (with or without eggs) for a long period, with great advantage.

The cutting up of the meat has an important influence on the character of the extract obtained. Thus Lehmann found that while solid beef gives up 69 per cent. of the entire ash, and 80 per cent. of the potassium salts, when heated with distilled water (80°–90° C.) for three hours, the same beef, cut up into dice, yields up 79 per cent. of its ash, and 98 per cent. of the potassium salts. The method of the Liebig extraction only takes out 60 and 66 per cent. of these, respectively, and this is due to the fact that the meat is boiled too short a time, or possibly, in too little water.

The usefulness of beaf tea (soups, etc.) lies then, according to Lehmann, (1) in their action as a substitute for a meal (with, perhaps, cerebral and muscular stimulation); (2) in stimulating digestion at the beginning of a large meal; (3) in making food more pleasant, acting as a spice.

ON THE TYPE OF RESPIRATION.

With a view to clearing up the vexed question concerning the costal type of respiration in women, Mays[17] has recently examined some Indian girls in the Lincoln Institution. Their ages ranged from ten to twenty years. He found that the full-blooded girls all had the abdominal type, while those of mixed blood showed the costal type with more or less distinctness. The variation in the type, then, is not due to sexual differences, as expressed in woman's monopoly of child-bearing, but would seem to be the outcome of the method of dressing adopted by the sex in civilized life. Mays thinks that the Indian's danger in the inevitable combat with consumption, which his contact with civilization has brought him, will lie in the incomplete thoracic expansion which abdominal breathing encourages. He also suggests that the constrictions practised by civilized white women may be of benefit to them by expanding their chests, and thus filling the apices of the lungs more completely. The thoughtful reader will see in this an inferential commendation of corsets and snug dressing, if not of tight-lacing. It will thus be possible for the energetic physician, when the triumphs of rectal insufflation shall have grown less brilliant, to introduce a new method of attacking, or, at least, of preventing consumption — a method which is sure to enhance his popularity with a large portion of the community.

[17] Mays. An experimental inquiry into the chest-movements of the Indian female. Therapeutic Gazette, May, 1887.

Clinical Memorandum.

A CASE OF RÖTHELN OCCURRING DURING THE PUERPERIUM.

BY J. ALDAN KITE, M.D., NANTUCKET, MASS.

December 25, 1886, 11 P.M., saw Mrs. B., a primipar., aged seventeen, in the first stage of labor. Found os slightly dilated, pains transient. Gave one-eighth grain of sulphate of morphia subcutaneously. Delivered her December 26th, 11.15 P.M., of a male child, eight pounds; instrumental delivery. Forceps on head in first position after the occiput had passed the superior strait, as there was marked uterine inertia. Within one-half hour the placenta was expressed without force and found to be intact.

December 27th. Temperature 99° F., pulse normal. Lochia and urine satisfactory.

December 28th, 10 A.M. Temperature 100° F., pulse 90, compressible. Saw the patient at 4 P.M. Temperature 105.5° F., pulse 140; delirium; slight tenesmus over abdomen; suppression of lochia. 11.30 P.M., antipyrin had reduced temperature to 103.2° F. The pulse was 120. Vaginal injections of $HgCl_2$, 1–5000, at 115° F., had been used every two hours, also flax-seed poultices over abdomen. A rectal enema had effected a copious movement of bowels.

It is unnecessary to state my fears or record my intentions. I at last decided to wait before resorting to direct uterine applications or examination.

December 28th, 8 A.M. Temperature 101° F., pulse 96. Lochia still suppressed. An examination revealed the entire body curved with an eruption of rötheln, including face and even scalp.

The lochia made their appearance on December 30th, the tenismus remained until January 4, 1887. On January 2d, the temperature rose to 102.08° F., and then gradually fell until the normal was reached January 5th. The eruption had entirely disappeared by January 17th, and was followed by desquamation.

Mrs. B., had not left the house for three weeks prior to her accouchement, nor had there been a case of rötheln, to my knowledge, on the island for two weeks.

Aseptic precautions during and after delivery had been complied with.

Reports of Societies.

AMERICAN OPHTHALMOLOGICAL SOCIETY.[1]

TWENTY-THIRD ANNUAL MEETING.

THE EYE OF THE ADULT IMBECILE,

By CHARLES A. OLIVER, M.D., of Philadelphia.

Twenty young adult male imbeciles were examined, care being taken to exclude all but the proper class of subjects. Nineteen observations were obtained, from which were drawn the following conclusions:

First, The eye of the male imbecile adult is an organ which is capable of proper functional activity.

Second, By reason of early mental incapacity, the ordinary appearance seen in the used eyes of the mentally healthy are lessened in due proportion to the amount of work given to the organ.

Third, The eye of the imbecile, being practically an unused organ for close and careful near work, the distension of the globe and the elongation in its visual axis with consequent increase in index of refraction is almost entirely avoided, this being in direct ratio to use.

Fourth, The want of these physical changes may be considered as significant of a type of unused healthy adult human eyes.

Fifth, The healthy eye of the imbecile serves to teach us that the various conditions seen in the used eye of the mentally healthy must be considered as pathological changes, the representatives not only of general want of tone, but of constant and frequent abuse of a delicate organ.

Dr. Charles A. Oliver also exhibited water-color sketches of a case of double chorio retinitis with partial degeneration of the optic nerve, associated with curious lymph extravasation into the retina and vitreous, in a boy twelve years of age, who had had an attack of basilar meningitis five years previously, at which time eyesight became bad. No hereditary dyscrasis could be discovered. Vision was greatly reduced, and patellar tendon-reflex was almost abolished.

ADDITIONAL CASES OF HYPERMETROPHIC REFRACTION, PASSING WHILE UNDER OBSERVATION INTO MYOPIA,

by S. D. RIPLEY, M.D., of Philadelphia.

Thirteen carefully-studied cases in which the eye with hypermetrophic refraction had been observed to pass into myopia, had been recorded in the annals of the Society. To-day, the author brought forward nine additional cases, making a total of twenty-two. In all these cases, the state of the refraction had been repeatedly demonstrated under complete paralysis of the accommodation. In every case, there was well-marked retino-choroidal irritation, with asthenopia. Insufficiency of the internal rectus was noted in three cases, in all of which tenotomy of the external rectus was performed. In no case was emmetropic refraction observed at any stage of the progress. The condition seemed to pass from the shallow hypermetropic ball to the lengthened myopic eye by the turn-stile of astigmatism. A detailed record of the nine cases was given.

The most important measure in the treatment of these cases was considered to be the use of correcting glasses. When we consider the large number of cases which, at the first, present the same conditions as the cases reported, and which have subsequently had no return of the trouble, we cannot but think that the group of cases now presented are only those in which the treatment has failed, and that, without their correcting glasses, a much larger number would have pursued the same history. A study of these cases has demonstrated to the author the importance of astigmatism, when present in very low degree, as a factor in setting up those changes in the nutrition of the eyeball which result in impaired resistance to even normal intraocular tension.

[1] Continued from page 139.

THE PATHOGENESIS OF PTERYGIUM,

by SAMUEL THEOBALD, M.D., of Baltimore.

The generally accepted theory of Arlt that pterygium has its origin in a marginal corneal ulcer, to which a tag of conjunctiva has become attached, he thought was untenable, because, if this were its usual mode of origin, pterygium would be found approaching the cornea from every possible direction, since marginal corneal ulcers are not apparently more frequent in one position than in another. It is known, however, that such is not the case, but that pterygium is almost always situated directly over the recti muscles, and that, in a very large proportion of cases, it is over the rectus internus. The more recently proposed theory of Poncet, that pterygium is due to the presence of microbia, which tunnel their way under the corneal epithelium, is open to the same objection, for this, also, assumes the existence of a precedent corneal ulcer. The view long held, that conditions which tend to induce chronic hyperæmia of the conjunctiva favor the formation of pterygium, he thought was well established.

Assuming that this view is correct, are there reasons why a localized hyperæmia of the conjunctiva should be of frequent occurrence where pterygium usually forms, to the nasal side of the cornea? This is answered affirmatively. The close connection between the vessels of the recti muscles and those of the anterior portion of the conjunctiva were referred to, and it was pointed out that the determination of blood to these muscles might influence the blood-supply of the overlying conjunctiva, and that this would be the case especially with the recti interni, since they were the largest of the straight muscles, and in close relationship with the conjunctiva, because attached to the sclerotic nearer to the corneal border than any of the others. Abnormality in the distribution of the blood-supply of the internal recti muscles and of the overlying conjunctiva, and more frequently still, disturbance in the normal relationship between convergence and accommodation, such as insufficiency of the internal recti muscles, the different varieties of ametropia, were regarded as the usual causes of pterygium through the localized hyperæmia of the conjunctiva, to which they give rise.

RECURRENT RETINAL HÆMORRHAGES FOLLOWED BY THE OUTGROWTH OF NUMEROUS SMALL BLOOD-VESSELS FROM THE OPTIC DISC,

by SAMUEL THEOBALD, M.D., of Baltimore.

The case reported was that of a lady, fifty-two years of age, in whom menstruation had recently ceased. During a period of nine months, she had suffered with recurrent hæmorrhages into the retina and the posterior part of the vitreous humor of one eye.

The macula escaped serious involvement, and central vision was but little affected. The hæmorrhages were supposed to be due to thrombosis of one of the larger retinal veins. Finally, a nebulous outgrowth from the optic disc, extending forward into the vitreous humor for some distance, made its appearance. This consisted of numerous small and nearly parallel blood-vessels running from behind forwards, and held together by semi-opaque tissue, the outline of which could be easily distinguished from the surrounding vitreous. When last seen, this growth had diminished somewhat in size. The prognosis was regarded as favorable, the development of the vessels being looked upon as an effort of nature to repair the damage caused by the repeated hæmorrhages.

DISCUSSION.

Dr. W. H. Carmalt, of New Haven. On February 17, 1877, a gentleman presented himself to me, complaining of sudden blindness in the left eye. I found it filled with blood, which prevented a thorough examination. A month later, examination showed nothing peculiar, except traces of coagula in the vitreous. August 3d of the same year, he began to complain of affection of the other eye. On this occasion, Dr. Noyes examined the eye, and found hæmorrhages into the vitreous of the right eye. The condition cleared up in that eye, and on June 3, 1878, the left eye was again affected. These attacks have continued to recur every few months.

Dr. B. E. Fryer, of Kansas City. I would say, with reference to the cases of recurrent hæmorrhages, whether or not attention has been directed to scurvy as a cause. I have seen one case of recurrent retinal hæmorrhage, which I thought was due largely to that cause.

Dr. O. F. Wadsworth, of Boston. I have seen several cases of recurrent hæmorrhage, partly retinal, but largely into the vitreous. In only one could I positively say that there was a development of vessels into the vitreous. The other cases have not been observed sufficiently long to show whether or not there has been a development of vessels. The case referred to was that of a man seen ten years ago, when he was thirty-five years of age. When I saw him, there was extensive hæmorrhage into the vitreous of one eye, rendering the fundus invisible. This cleared up to a certain extent, leaving portions of the retina clear. Then certain changes in vessels toward the periphery could be seen. The other eye showed a perfectly healthy fundus, except in certain places toward the equator, where there were several patches of perivasculitis. The hæmorrhages continued to recur in the affected eye. After a time, there could be detected in the vitreous a nearly transparent membrane, containing vessels, some of which could be traced back to the retinal vessels. Two or three years later, I again saw the patient. He had then been free from recurrences for a year or two. There were still some vessels in the vitreous, but not so many as previously.

Dr. H. Knapp, of New York. I wish to say a word with reference to treatment. The main point is not to fatigue the eyes, and to put them at rest early in the evening. A waitress in a New York family suffered from hæmorrhages every time the family gave an evening party. She was sent to the country, and the hæmorrhages cleared up. She returned and served at an evening party, and again the eye filled with blood. She has now given up service, and for two or three months has had no trouble. The treatment consists in rest, and in avoidance of everything that would produce a dropsical condition of the blood.

EMBOLUS OF THE CENTRAL RETINAL ARTERY,

by G. C. Harlan, M.D., of Philadelphia.

The patient was a clerk, fifty-two years of age, in good general health. While reading in perfect comfort, a shadow suddenly appeared before the left eye, and, on closing the other, he could just distinguish large objects about the room "through a brownish haze," and in a few minutes, sight was entirely gone.

An ophthalmoscopic examination, made the next morning, showed an extensive œdema of the retina, giving the whole fundus a grayish tinge; disc pale, and its margins blurred; arteries very pale, although not much narrowed, and some of the smaller branches lost in the retinal œdema; larger veins contracted in places, particularly in and near the disc, but generally of full calibre; phenomenon of visible, slow, continuous circulation of blood in bead-like sections, well marked in superior temporal artery and vein; macula occupied by bright-red patch, oval in form, with its long diameter horizontal, and several minute terminal vessels in its neighborhood enlarged and apparently isolated; two small dots of retinal hæmorrhage at outer margin of disc. The œdema increased decidedly for the first few days, and then gradually subsided. There was still a little remaining on the nineteenth day, after which the patient was not seen for three weeks, when the color of the fundus was normal. The visible circulation lasted only about a day and a half, disappearing first in the artery. The veins refilled at their narrowed portions, and retained nearly their full calibre, while the arteries became paler and narrower, until only the two main trunks could be seen, and these showed white lines along their margins from perivasculitis. The spot at the macula gradually disappeared. The disc regained the distinctness of its outlines, but remained dead-white. Colored plates were shown, illustrating the first and the final appearance of the fundus.

The pathology of the case was very obscure. The heart and kidneys were normal and there was no symptom of degeneration of the arteries. A caries of the middle turbinated bone on the same side, from long-standing nasal catarrh was not thought more likely to act as a cause than would be a similar local disease in any other part of the body. The only possible causes seemed to be that some product of the nasal disease might have found its way into the general circulation and lodged in the retinal artery; that an embolus might have been formed of a fragment washed from a parietal thrombus in some distant vessel; or that the obstruction might have resulted from disease in the retinal artery itself.

Dr. David Coggin, of Salem, Mass., read a paper entitled:

CHRONIC GLAUCOMA,

describing a case, the object being to elicit discussion as to the best method of treatment.

DANGER TO IRON-WORKERS FROM THE USE OF OLD HAMMERS,

by Dr. George C. Harlan, of Philadelphia.

A hammer was shown from which a fragment had split off, injuring the eye of a workman. The constant concussion of the hammer causes it to assume a crystaline condition and become very brittle.

A CASE OF RETINITIS PIGMENTOSA TREATED ELECTRICALLY,

by MYLES STANDISH, M.D., Boston.

The patient was a woman, thirty-three years of age and was myopic 1.50 D.; she had worn glasses since she was seventeen years of age. When first seen April 14, 1886, her sight had been failing for three years and for the last three months had failed very rapidly, so that she could not go on the street alone after dark. Upon ophthalmoscopic examination characteristic patches of retinitis pigmentosa were found in the periphery of the fundus of each eye.

Her vision was right eye $\frac{1}{8}$; left eye $\frac{1}{8}$ and the fields of vision were limited to less than 20° in the vertical and horizontal axes.

The only treatment has been the use of the constant current, of such strength as could be easily borne. This has been applied once in five days during the last fifteen months. Her present vision is, right $\frac{20}{xxx}$; left eye $\frac{20}{xx}$, and the fields of vision have now vertical and horizontal axes of 70°. She now goes on the streets after dark with safety.

ASEPTIC CATARACT EXTRACTION WITH IRRIGATION,

by C. H. WILLIAMS, M.D., of Boston.

The author reported five cases of irrigation of the anterior chamber after cataract extraction with a 0.5 per cent. solution of chloride of sodium as recommended by Dr. McKeown. Instead of a syringe, a glass flask was used, bearing two glass tubes blown in the side. One of these was drawn out to a fine nozzle that could be easily inserted into the anterior chamber; the other had a rubber tube and mouth-piece attached, so that the pressure of the stream could be controlled by the operator. The flask had a capacity of 50 cc., more than enough to complete any irrigation without removing the tube from the eye. The irrigating instruments and the 2 per cent. solution of cocaine were sterilized in the steam sterilizer, and this was not found to injure the anæsthetic properties of the cocaine. The rest of the instruments and the dressings were sterilized by dry heat at a temperature of 150° cm. In order to determine the efficiency of the solution of the biniodide of mercury used for the preliminary washing out of the conjunctival sac, some experiments with plate cultures were made at the laboratory of the Harvard Medical School, through the kindness of Dr. Ernst. An equal amount of the biniodide of mercury and the iodide of potassium were dissolved in water and added to 10 per cent. nutrient gelatine, to give a series of strengths up to 1 to 5000 of the biniodide to the gelatine. Ten days after exposure to the air of the laboratory for six and one-half hours, no growth of bacteria were found on any of the plates, although on the unprotected plates exposed at the same time, there was an abundant development of colonies of bacteria. Gelatine of the strength of Panas' solution (1–20,000) was then tried, and these plates, after four days, showed an average of 1.5 and 0.8 colonies of bacteria to the square centimetre of surface in the two series of plates, while on the unprotected plates the average was 10.5. In two of the cases of extraction a suture was passed through the piece of conjunctiva above, and this held the wound well in position. All of the extractions were done without iridectomy and a layer of iodoform was dusted on the edge of the closed lids, just before applying the bandage.

DR. LUCIEN HOWE, of Boston. In regard to antisepsis, we know that different forms of bacteria have different degrees of susceptibility for different agents. When we speak of antiseptics we mean simply one remedy which has not a general effect upon fifty or a hundred forms. After we take these different forms and isolate them, our only method of experimentation is upon the lower animals, and there we have a great deal to guard against. We are not able to draw conclusions from the effects upon animals as to the effect upon man. Besides this, it is necessary to consider the part upon which the bacteria are placed.

(To be continued.)

AMERICAN NEUROLOGICAL ASSOCIATION.[1]

THIRTEENTH ANNUAL MEETING AT LONG BRANCH.

DR. LANDON CARTER GRAY read a paper on

CHOREA.

This, he remarked, had been considered as a self-limited disease of an average of ten weeks, but he considered it more serious than has been allowed; quoting 134 cases as reported on his books, 17 of which have had one relapse, four have had two, three have had two, one has had five.

In 23, the disease was distinctly chronic. The speaker then gave the statistics of the remainder; some suffering from hysteria, and some from convulsions, some also from a neurosis, two were fatal. The mortality in pregnant women he placed at 25 per cent. He considered it to be greatly increased by mental impression, ending in chronicity or cure.

One peculiar case was quoted in which red, painful spots appeared at the ankle as premonitory symptoms; the following day chorsic symptoms were shown and the painful spot had disappeared. Against the wishes of the speaker she was removed to the country, and died on the twenty-third day. Other cases were quoted as coming under his observation, and he had habitually divided them into classes: namely, those with convulsions, others of contraction of the muscles of respiration, rapid pulse, cardiac and pulmonary lesions, etc. After a careful retrospection of these cases the writer had come to the conclusion that rest, rest in bed, was the best remedial agent; this should be guided by the symptoms of the disease. Eight years ago he had concluded that arsenical treatment was the best method to be pursued, but had since discovered his mistake, and that arsenic was but temporary in its effect. In chorea he also used large doses of dyalized iron, 30 minims to two drachms well diluted; galvanism of the spinal cord also being of benefit. The speaker also drew attention to atmospheric influences in these cases as previously mentioned by Weir Mitchell.

DR. STARR asked Dr. Gray as to the probability of adults becoming insane after developing chorea, as in some cases he had noticed a tendency to mental impairment.

[1] Continued from page 137.

DR. LLOYD remarked that he had noticed in a pregnant woman the tendency to this condition.

DR. DERCUM asked if he had had any experience with cimicifuga, also as to those cases of chorea accompanied with epilepsy.

DR. MILLS was in favor of rest, rest in bed, the child to be allowed to have her playmates come into the room and amuse her.

DR. HAMMOND thought there was a great division of opinion as to the application of arsenic, but in his own practice he used it almost exclusively, and in anæmic cases combined it with rest and tonic treatment.

DR. SINCLAIR thought that in these cases there was more or less mental impairment; he had used arsenic and pushed it to toxical effects. The speaker drew attention to heart lesions in these cases.

DR. EDES mentioned cases which had passed into insanity, but had afterward recovered.

DR. GRAY, in conclusion, considered choraic insanity of very rare occurrence; as to whether the choraic patient was more prone to insanity, that he could not say. He had not had much experience with cimicifuga.

AFTERNOON SESSION.

DR. DERCUM, of Philadelphia, Pa., read a paper on

TWO CASES OF HEMICHOREA ASSOCIATED WITH BRIGHT'S DISEASE.

The speaker called attention to the fact that the movements first commenced in the arm, next involving the face, finally the whole body; this condition remained for two weeks, the motion so violent as to interfere with sleep, carbuncles also appearing on the back of his neck, death finally resulting.

At the post mortem the vessels were found to be thickened and somewhat pale.

The second case was that of a carpenter, sixty years of age, who had suffered from vertigo for several years; suddenly one day he lost the use of his right leg, which lasted for two weeks; he was perfectly conscious during the attack, and had no recurrence. He afterward fell a few feet down a scaffold but escaped without injury; unfavorable symptoms afterward followed, and albumen and casts were found in the urine.

The writer asked if there was an association of hemichorea with Bright's disease? In this case there was no history of hemiplegia, as also in the first case. If the chorea is associated with Bright's disease why should it be so limited? He quoted various experiments in the ligation of arteries which had been made for scientific purposes, and as producing convulsions in which there was no lesion of the brain, mentioning cases of uræmic convulsions quoted in medical journals, and considered it important to note that uræmic hemiplegia is not limited to old people.

DR. EDES thought that these symptoms were not alone confined to Bright's disease, but that the general system was involved, that there were cases of hemiplegia which come and go very rapidly. He thought, in Dr. Dercum's cases, there was some disturbance in the circulation, but not enough to be detected after death.

DR. MILLS was rather inclined to agree with Dr. Edes, and to think that the disease produces unilateral depression of the general nervous system; he had seen not a few cases in which hemiplegia was developed in Bright's disease; he considered this to spring from a condition purely local, developed in the cerebrum from the uræmic poison; and at the post mortem, unless under the most careful examination of the brain, he would find nothing that he could call a gross lesion. In general terms you have an interference of circulation; why it should be right in one and left in another he did not know, and considered it purely accidental. He thought chorea might be produced in this way.

DR. DERCUM remarked that although he had made careful microscopical examinations, he had found nothing but general œdema, and in one case slight sclerosis of the vessels, but not more marked on one side than the other.

DR. E. C. SPITZKA, of New York, read a paper on

ACUTE OR GRAVE DELIRIUM.

The speaker considered that this condition might arise from various causes, commencing with insomnia, inability to collect the thoughts, and a feeling of impending misfortune. Some may feel hilarious, some have illusions of hearing or touch, others again are passive. Both the temperature and pulse increasing, the symptoms denoting extreme exhaustion; but just previous to death the patient may become sane. The reader entered into the pathological condition of the brain as described by other authors; his object being to prove that this condition was entirely due to disturbed brain circulation, produced by morbid changes in the brain and perverting the function of this organ.

DR. GRAY remarked that among his own cases coming under this head he had only had one fatal; one case had now been living three years, and was in an asylum, another case he knew lived for six months; one case had a history of syphilis. The fatal cases that he had seen had been so violent that they had to be restrained.

DR. MILLS stated that in three cases of so-called hysterical insanity two of them died and one recovered; he believed that two of them were cases of grave delirium.

DR. HENRY HUN, of Albany, N. Y., presented a paper on

GLIOMATOUS HYPERTROPHY OF THE PONS.

This he considered as of rare occurrence; the case was marked with increased incordination of movement, bulbar paralysis and general motor paresis. On the father's side nervous trouble existed. The patient was well nourished, had difficulty in balancing herself, speech drawling, the mouth being kept open generally, difficulty in swallowing and drools when eating. Her gait resembled that of a drunken man, and her arms were very weak. There was no disturbance of sensation in any part of the body.

These symptoms steadily increased up to the time of her death; there was in the later stages a decided increase in the size of the head with pain in the occipital region, but her intellect appeared clear up to the time of her death.

At the autopsy the bones of the skull were found to be rather thin; increased sub-arachnoid fluid with an œdematous condition of the brain-tissue: the pons varolii being greatly enlarged and replaced by a tumor, apparently a glioma, appearing like a greatly hypertrophied pons; a little posteriorly was a small focus of softening.

The speaker remarked that the tumor in its growth produced no symptoms of irritation; there were no convulsions and but little headache; there was simply a steady decrease of loss of function of those nervous elements which were subjected to the pressure of the growing tumor. He thought it remarkable that notwithstanding the great amount of œdema, and an internal hydrocephalus so extensive as to cause a perceptible enlargement of the head, consciousness and even intelligence were preserved up to the end of life.

DR. STARR read a paper

ON PARAMYOCLONUS MULTIPLEX.

The case alluded to was that of a grocer who previously enjoyed good health, but had recently strained himself in lifting a box. The pain commenced below the right shoulder, and was so severe that he immediately consulted a physician, and, while in his office, was seized with a convulsion, screaming with pain. This was followed afterward with spasms of the muscles of the trunk, having ten or twelve attacks in twenty-four hours, groups of muscles of the extremities gradually becoming affected, spasm of the diaphragm being also observed. These spasms he could not control, and any exposure to shock would produce them, being more liable to occur under mental excitement. Pressure on the right shoulder, at the seat of pain, would produce them at once. In this case, the spasms of the muscles were very violent, but did not move the joints.

The writer remarked that tapping of the skin would produce a spasm, and he considered this a functional neurosis. This, he believed, made a number of ten reported cases. The disease being a spasmodic affection of the muscular system, occurring bilaterally, a series of violent chronic spasms occurring at intervals after violent physical or mental strain. Galvanism, arsenic, chloral, etc., were found beneficial in the disease.

DR. SPITZKA mentioned a case in which the patient was not quite equally affected on both sides of the body. The movements here were one hundred and forty-five to the minute.

DR. DANA mentioned a case in which the movements of the muscles commenced at five, and increased to sixty, but it did not resemble Dr. Starr's description in all points.

DR. MILLS could not see the necessity of dividing this from muscular tremor, and making it a separate disease, and thought it might be of interest for Dr. Starr to give the differential diagnosis.

DR. SACHS said he did not think Dr. Starr wished to claim it as a distinct disease, but to give it a distinctive name as a subdivision. He was rather in favor of this idea also. The speaker considered there were a sufficient number of these cases to warrant this subdivision.

DR. LLOYD remarked that he had seen a number of cases of hysterical tremor which so closely resembled the symptoms mentioned by Dr. Starr, that he was inclined to believe there was hysteria in his case also.

DR. STARR, in conclusion, stated that the points in these cases were bilateral. In the case mentioned, there was a slight sound emitted. He could not agree with Dr. Dana's statement as to these being cases of convulsive tremor. He regarded the remarks of Dr. Mills as important, as it was a question in his own mind as to whether the case was hysterical or not. This same question has come up with a number of different authors.

(To be continued.)

SOCIETY FOR INTERNAL MEDICINE, OF BERLIN.

MEETING, May 16, 1887.

Discussion of paper of DR. FRAENTZEL on the use of

CREOSOTE IN TUBERCULOSIS PULMONUM.

DR. PAUL GUTTMANN said, in substance, as follows: We were led to make some experiments with this remedy from the favorable reports of the action of creosote in tuberculosis pulmonum, by Dr. Fraentzel and similar reports of Sommerbrodt, of Breslau. The report of the latter giving the result of the trial of the remedy upon 5,000 patients was published during the last month in the Berliner Klinische Wochenschrift. The decision to use creosote in phthisis pulmonum is reasonable, because this remedy acts antiseptically, and as I will presently show, very strongly antiseptically.

Koch has already observed that if some creosote be added to the culture glasses, the tubercle bacilli cease to grow. Dr. Fraentzel declared this some years ago, in the discussion at the Congress fuer Innere Medicine at Wiesbaden.

Now as to the question whether this remedy by internal use will cure or improve in a disease caused by a micro-organism. We must know not only that it works antiseptically, but how strongly as an antiseptic it will act. Such investigations concerning the action of creosote have not been made. The speaker had experimented upon a number of micro-organisms in a very simple and exact method. This consists in taking a certain amount of gelatine, mixing therewith a certain amount of creosote and placing in this mixture culture micro-organisms. The gelatine was rendered liquid by heat, then a five per cent. alcoholic solution of creosote was added, until mixtures were obtained of the strength of 1 to 4,000, 1 to 2,000, 1 to 8,000, etc. Of 17 different micro-organisms, of which 13 were pathological, 4 not pathological, 13 did not grow any more in gelatine which contained creosote 1 to 2,000, and many of them not in a 1 to 4,000 per cent. Of the remaining three kinds one still grew in a solution of 1 to 1,000. This could not be due to the alcohol, for the micro-organisms still increased, and just as fast, when alcohol, even in stronger quantities was added to the gelatine.

The author in five weeks past had used creosote in 52 cases of phthisis pulmonum, some cases light, some advanced. The mixture used was as follows: 1 part creosote, 2 parts aether acetic, 2 parts tinct. aromatic, 25 parts syrup simple, aquæ. q. s. ad 100. This is not entirely clear. After long standing the creosote settles to the bottom, and should always be shaken before used. It tastes quite well and can be made more pleasant by the addition of a little raspberry syrup. He gives 75 grains of a 1 per cent. solution 3 times a day, so that the patient gets in the whole day two and one-fourth grains or three-fourths grains per dose. This is not half the amount given by Dr. Fraentzel; in one case he doubled these proportions.

Five weeks, are, of course, too short a time in which to come to any definite conclusion as to the real worth

of the remedy, but we can at least tell whether the desire to cough and the secretion be lessened. The reporter had not found the remedy to be as well borne as did Drs. Fraentzel and Sommerbrodt. In numerous instances nausea and vomiting occurred and it had to be discontinued. In other cases it was well borne, but the appetite did not improve. In a small proportion of patients the appetite improved quite noticeably, but not so regularly as claimed by Dr. Fraentzel. During this time some patients gained, others lost in bodily weight; in general there was no marked increase. Many cases showed an improvement in the cough and expectoration, but in the greater number none was noticed. The speaker asserted that the attention and hygiene received by patients suffering with phthisis pulmonum, effects an improvement, and this was often placed to the credit of the remedies used.

Dr. Thorner had been led to use creosote in ten cases, by the paper of Dr. Fraentzel. He found creosote to be very repulsive to patients, especially so to women during the menses, probably due to the greater irritability at that time. He gave the creosote in pill form made up with ol. menth. piperiti and sapo, 80 grains of creosote divided into 60 pills, 2 pills 3 times a day after meals. In this way it is borne very well.

Dr. Rosenheim had experimented on about 30 patients, with creosote, in the Friedrichshain Hospital. The results were as follows:

(1) Vomiting immediately after taking the remedy in 40 per cent.

(2) Severe diarrhœa in at least half the cases, even when the bowels were formerly regular; the number of movements reached 10 per day.

(3) In complaints of gastralgia and colicky pains, sometimes very severe and of longer or shorter duration.

In other cases he noticed improved appetite and improvement of an existing diarrhœa. He found it best to give the liquid in an emulsion of red wine. He also used it in balsam of tolu in gelatine capsules, after the plan of Sommerbrodt.

This was well borne, except that repeated eructating occurred some minutes after the remedy was taken.

Dr. Fraentzel said he had not claimed for creosote a specific action, but that it was an especially good tonic. If, as said before, we get 15 favorable results out of 400, we are doing well. The results are not so wonderful, but they are better than those to which we have been accustomed, and the speaker begged his colleagues to experiment further with the remedy.

Recent Literature.

Die allgemeine Pathologie oder die Lehre von den Ursachen und dem Wesen die Krankheitsprocesse. von Dr. Edwin Klebs. Erster Theil. Die Krankheitsursachen. Allgemeine pathologische Ætiologie. Mit 66 theilweise farbigen Abbildungen im Text und 8 Farbentafeln. Jena: Verlag von Gustav Fischer. 1887.

[*General Pathology or Knowledge of the Cause and Being of the Processes of Disease.* By Dr. Edwin Klebs. First Part. The Causes of Disease. General Pathological Ætiology. With colored illustrations in the text and 8 plates. Jena: Gustav Fischer. 1887.]

As is indicated in the title, this book is a comprehensive work on general pathology. It is the author's intention to treat so from the scientific standpoint, leaving its application to the practitioner and clinician. The entire work is to be in three parts, each complete in itself. The first part is of the causes of disease, that is, general ætiology; the second of the changes in the structure and composition of different tissues, pathological morphology; and the third the destruction of function, general pathology. From this it would seem that the subject is approached in quite a different way from the usual treatises.

The first part is all that is as yet published. In this the origin of disease is dealt with, and the causes ranged as either internal or external. Under the former are ranged hereditary and developmental causes, and under the latter are placed those caused by living organized beings, either plants or animals.

The diseases under the first head are but few, but this portion of the book is very interesting. The evidence, which is drawn from many cases, is graphically shown by the pedigrees of the families. For example, the occurrence of epilepsy is traced through several generations, showing a tendency to the repetition of certain diseases. Also progressive muscular atrophy and the so-called hereditary polyuria, atrophy of the optic nerve are fully considered. These chapters alone give food for reflection, especially on the possibility of propagating disease by ill-assorted marriages.

The greater part of the remainder of the book is, from the author's standpoint, to be regarded as parasites, and we have the bacterial theory in its furthest limit. He has presented this theory in a very exhaustive manner, but has failed to bring sufficient stress upon those cases where the cause is doubtful. Such, for example, as typhoid fever. Then, too, he has made no allusion into the origin of malarial fever. It is interesting to see the value of the more recent researches demonstrated another parasite than the so-called plasmodium, as an exciting cause. The work is the first systematic treatise on the subject of the day has been assigned to bacteria, it is believed by many to be entirely due to this, a mass of well-sorted information is presented which carries conviction.

Knowledge accumulates so fast that a wonderful mind to marshal all the facts in their proper place and show their bearing on each other is needed to be done more judiciously than in the past. And while we hail with delight a good mind like that of Klebs, who can handle a mass of isolated facts, we must receive his conclusions with more reservation. For while he has written many modern times we are still but in the infancy of knowledge and have not even a glimpse into the future. The book is well printed, and on paper of better quality than is usually found in medical works. The colored illustrations of the appearances of bacteria as they are seen under the microscope, with the modern methods

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DR. ROSENHEIM had experimented on about 30 patients, with creosote, in the Frederickshain Hospital. The results were as follows:

(1) Vomiting immediately after taking the remedy in 40 per cent.

(2) Severe diarrhœa in at least half the cases, even when the bowels were formerly regular, the number of movements reached 10 per day.

(3) In complaints of gastralgia and colicky pains, sometimes very severe and of longer or shorter duration.

In other cases he noticed improved appetite and improvement of an existing diarrhœa. He found it best to give the liquid in an emulsion of red wine. He also used it in balsam of tolu in gelatine capsules, after the plan of Sommerbrodt.

This was well borne, except that repeated eructating occurred some minutes after the remedy was taken.

DR. FRAENTZEL said he had not claimed for creosote a specific action, but that it was an especially good tonic. If, as said before, we get 15 favorable results out of 400, we are doing well. The results are not so wonderful, but they are better than those to which we have been accustomed, and the speaker begged his colleagues to experiment further with the remedy.

Recent Literature.

Die allgemeine Pathologie oder die Lehre von den Ursachen und dem Wesen die Krankheitsprocesse. von DR. EDWIN KLEBS. Erster Theil. Die Krankheitsursachen. Allgemeine pathologische Ætiologie. Mit 66 theilweise farbigen Abbildungen im Text und 8 Farbentafeln. Jena: Verlag von Gustav Fischer. 1887.

[*General Pathology or Knowledge of the Cause and Being of the Processes of Disease.* By DR. EDWIN KLEBS. First Part. The Causes of Disease. General Pathological Ætiology. With 66, in part, colored illustrations in the text and 8 colored plates. Jena: Gustav Fischer. 1887.]

As is indicated in the title, this book is one part of a comprehensive work on general pathology, which it is the author's intention to treat solely from a scientific standpoint, leaving its application to the practitioner and clinician. The entire work will consist of three parts, each complete in itself. The first treats of the causes of disease, that is, general pathological ætiology; the second of the changes occurring in the structure and composition of different tissues, general pathological morphology; and the third part of the destruction of function, general pathological physiology. From this it would seem that the subject is approached in quite a different way from the older treatises.

The first part is all that is as yet published. In it the origin of disease is dealt with, and this is regarded as either internal or external. Under the former are ranged hereditary and developmental diseases, while under the latter are placed those due to the action of organized beings, either plants or animals.

The diseases under the first head are comparatively few, but this portion of the book is extremely interesting. The evidence, which is very complete in many cases, is graphically shown by diagrams of the families. For example, the occurrence of bleeders is traced through several generations, then the tendency to the repetition of certain nervous disorders, progressive muscular atrophy and the like, as well as hereditary polyuria, atrophy of the retina and cataract are fully considered. These chapters cannot fail to give food for reflection, especially as to the probability of propagating disease by ill-advised unions.

The greater part of the remaining diseases are, from the author's standpoint, to be regarded as due to parasites, and we have the bacterial origin pushed to its furthest limit. He has presented the subject in a very exhaustive manner, but has failed, from his great desire to bring all under the general law, to lay sufficient stress upon those cases where the evidence is still doubtful. Such, for example, as yellow and scarlet fever. Then, too, he has made special investigation into the origin of malarial fever. It is difficult for him to see the value of the more recent work, which has demonstrated another parasite than a bacillus namely the so-called plasmodium, as an efficient cause. This work is the first systematic treatise in which the question of the day has been assigned the place to which it is believed by many to be entitled. In order to do this, a mass of well-sorted information has been presented which carries conviction with it.

Knowledge accumulates so fast that it requires a wonderful mind to marshal all the facts into their proper place and show their bearings, and nowhere is it to be done more judiciously than in general pathology. And while we hail with delight any attempt of a good mind like that of Klebs, to bring into unity the mass of isolated facts, we must accept his conclusions with more reservation. For with all the discoveries of modern times we are still but standing on the threshold and have not even a glimpse into the space beyond. The book is well printed, and the paper of rather better quality than is usually found in German medical works. The colored illustrations show clearly the appearances of bacteria as they are seen under the microscope, with the modern method of contrast staining.

Elementary Microscopical Technology. A Manual for Students of Microscopy. In three parts. Part I: The Technical History of a Slide. By FRANK L. JAMES, Ph.D., M.D. St. Louis. 1887. 107 pp.

The author of this little work on practical histology regards it as a defect that, in current text-books, technology proper and micrography — to use the author's terms — are mixed up. He has, therefore, undertaken a manual "modelled after an ideal in which nothing should be taken for granted." The present Part I "details the technical history of a slide from the crude materials up to the finished mount." The work is written in a manner which is likely to prove more attractive to the amateur microscopist than to the professional histologist. It may, indeed, be commended for several good qualities, especially for the clearness and good sense of the directions given. It will prove, we think, helpful to those who, having procured a microscope as an instrument of recreation and instruction, wish to work profitably, although they do not have the advantage of being under a competent professional teacher. The work is not suited for the needs of medical students, being less adapted for their wants than several already existing manuals. This we are obliged to say, because the author is not familiar enough with the methods of histology to have selected always for presentation those which are best. For example, he omits all mention of Delafield's hæmatoxylon, the most preferable of the log-wood solutions, nor, so far as we have observed, does he refer to Weigert's hæmatoxyline methods, which may now be considered as indispensable, even in ordinary histological work. Again, the recipes which he gives for Beale's carmine are not those which experience has led histologists to give preference to. The book is neatly printed, and furnished with a convenient and ingenious index. It may serve to further characterize the work if we add that several pages are devoted to methods of decorating the slide after the preparations are mounted.

The Diseases of the Ear and their Treatment. By ARTHUR HARTMANN, M.D., of Berlin. Translated from the third German edition by JAMES ERSKINE, M.A., M.B., etc. With forty-two illustrations. G. P. Putnam's Sons. 1887. pp. 280.

Without claims to originality this is intended as a concise, scientific handbook for the practitioner, in which what the author has found useful in his own practice is particularly and fully described, while what in otology is still hypothetical is but slightly touched upon or wholly omitted.

It is clearly written, its material is fairly well arranged for reference, and well indexed, the latter rather an unusual thing in a German work. Anatomy is concisely, but sufficiently described; physiology is all too slightly dealt with when it is remembered how important it is for understanding the results of pathological processes and how little it is understood; pathology holds an insignificant position, but, as would be expected, etiology, symptomatology and treatment receive a large share of the author's attention, and on these subjects his work has been very well done.

While the book is no substitute for some of the later text-books, and not explicit enough for the student, it is of value for reference to the practitioner who is already reasonably familiar with the subject. The wood-cuts are good as illustrations, but scarcely artistic in finish. The translation is admirable.

THE BOSTON

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THE EIGHTEENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS.

AFTER its separation from the Board of Health, Lunacy, and Charity, the State Board of Health was given considerably enlarged powers and duties, including the causes and prevention of infectious diseases; the suppression of nuisances, and regulation of noxious and offensive trades; collection and diffusion of information relative to industrial hygiene; the hygiene of schools and public institutions; the examination, investigation, and supervision of water-supplies, and plans or systems of drainage and sewerage; the disposal and transportation of the dead; inquiries into the causes and prevention of insanity; intemperance from the use of stimulants and narcotics, and the remedies; the protection of human life; infectious diseases of animals; the inspection of food, drugs, and other articles affecting the public health.

The report is so packed with information of the greatest use to physicians and the community in general, that we advise every one who can to read it, as any review must be entirely inadequate to do much more than indicate or summarize its contents.

In the matter of water-supply and drainage, the Board was called upon in the case of ten towns. Above the city of Lowell, the impurities in the River Merrimac have increased thirty-six per cent. from 1873 to 1886, and above Lawrence, fifty-seven per cent., thereby placing the water-supply of Lawrence near the limit beyond which the water would be unfit for drinking. It is proposed to make frequent chemical and biological examinations of these and other water-supplies.

A paper by Dr. C. F. Withington on the transmission of infectious diseases through the medium of rags, comprises sixty-five pages of the report, and deals quite thoroughly with the evidence on that subject, especially as regards this State, which uses one-third of all the rags imported into the United States. His conclusions are that small-pox has been transmitted

in a small proportion of cases by rags, but more frequently domestic than foreign; that among the rarer means whereby cholera is transmitted are textile fabrics, especially clothing infected with choleraic discharges, possibly merely packed in an infected locality, a proper distinction being drawn between clothing used, and soon to be used again, on the one hand, and on the other, rags, which are certain to have undergone a process of sorting and drying, and to have spent a considerable time in warehouse and on shipboard; that the statement that cholera has been transmitted by paper rags rests upon a solitary case, of which the details are not complete, and the facts not agreed to be trustworthy, the rags being of domestic origin, and conveyed only fifty miles; that an epidemic known as rag-sorter's disease, probably, though not certainly, anthrax, appears to have broken out on three or four occasions in European paper-mills; that authenticated cases are not to be found where other infectious diseases have been communicated by rags, and that mortality tables do not show a preponderance of these diseases in paper-making towns; that there is no evidence that rag-sorters are, except for occasional cases of small-pox and pulmonary irritation from the dust in improperly-ventilated rooms, less healthy than other persons engaged in in-door manual work; that it is a proper precaution to prohibit the landing of rags gathered at the time and in the place of an epidemic of cholera, proper care being taken that rags shipped from a non-infected port did not come from an infected locality; that paper-mills should be required to have adequate ventilating apparatus in the rag-rooms and dusting-rooms; that there should be a penalty for selling or giving away infected rags; that mill-hands should be vaccinated; that the mill is the proper place for the complete disinfection of rags in general, including domestic rags, and that disinfection or destruction of infected articles should be required, instead of advised, on the part of institutions or householders.

During the four months ending September 30, 1886, there were examined 1,468 samples of food, milk, and drugs, of which 410 of food were found adulterated or not conforming to the statutes, 221 of milk below standard, and 132 of drugs not up to the requirements of the law, suspicious articles being, for the greater part, selected for examination, a very great improvement having taken place, especially in milk, since the law went into effect. There were twenty prosecutions and seventeen convictions during the four months.

Under the "Health of Towns," it appears that there were only three cases (and one death) from small-pox during the year, and that malarial fevers prevailed in fifty-nine out of two hundred reporting cities and towns, no less than "more than four hundred cases" having been returned from Framingham alone.

The report closes with an admirable manual, containing the statutes relating to the public health, and the decisions of the Supreme Court of Massachusetts relating to the same.

IS GENIUS A NEUROSIS?

THE saying of Pope: "True wit to madness is allied," has been the text of many a profound dissertation on the insane peculiarities of men of genius.

Dr. James G. Kiernan has written an article in the *Neurological Review*, in which he combats the view that genius is the product of a morbid mind. In exceptional instances where the two co-exist, he says, the genius is evidence of a healthy conservative element struggling with the incubus of disease. The best balanced poets have been the greatest. Shakespeare's works are evidence of a well-balanced intellect. Nothing exists to impign the sanity of Milton, Addison, Wordsworth, Tennyson, Klopstock, Goethe, Schiller, Burger, Dickens, Longfellow, Thackeray or Bryant.

Sophocles wrote his tragedies at a great age, and his sons called him into court to have him placed under guardianship as a dement. He refuted the imputation of his mental condition by reciting "Œdipus Colonus," which he had just composed, to his judges, who thereupon pronounced him mentally competent.

While, then, the doctrine that poetic genius is an offspring of disease is easily refuted, it is no less true, as Dr. Kiernan shows, that some of the most celebrated lights in literature have been men of more or less unbalanced minds. Poe was a dipsomaniac, and the *mental realization* of some of his poems would be counted insanity. Saxe was the victim of melancholia, the consequence of "railroad spine." Cowper was subject to periodical melancholia, and the same may be said of Byron and Shelley. Coleridge "was the prey of his own ideas, usually of outside suggestion, and for this reason his productions have a fragmentary character. He himself draws a pretty good picture of his mental condition when he says: 'Why need we talk of a fiery hell? If the will, which is the law of our nature, were withdrawn from our memory, fancy, understanding, and reason, no other hell could equal what we should then feel from the anarchy of our powers.'"

Johnson was the victim of nervous disease. He suffered from hallucinations of hearing; when he entered a doorway, he would suddenly whirl and twist about in strange gesticulations. He would often stop in the middle of the street to go through this ceremonial. He was subject to lengthened periods of mental torpor, when he hardly knew what was going on around him. Johnson inherited strong insane tendencies from his father.

Goldsmith's mental defects, Dr. Kiernan thinks, were but a slight twist in the judgment, and a blunted moral sense.

Rosseau and Pope were both the victims of the unequal development of mind and body after boyhood; they were "hebephreniacs." Both manifested suspicional delusions.

Defoe evinced insanity only as the result of age, and the same may be said of Emerson, Southey, and

Rogers, and in the case of all of these the insanity destroyed the genius.

Moliere's epileptic insanity "tinged his genial heart with sarcastic suspicion." Swift's middle ear disease caused insane suspicions and irritability. When his insanity, however, was once fully developed, his creative powers vanished.

Dr. Kiernan concludes that there is no incompatibility between poetic inspiration and the most perfect sanity, and that "the highest poetic genius is closely akin to the highest scientific, while, at the same time, much that passes for fine poetry is no better than maudlin raving, and in periodical 'insanity the appearance of poetry is often an indication for medical treatment.'"

MEDICAL NOTES.

—A case has recently been decided in one of the county courts of England in which a barber was held liable for damages for having infected a customer's face with *sycosis menti* through the use of an improperly cleansed razor.

— A curious anæsthetic used by the Chinese has recently been made known by Dr. U. Lambuth, in his third annual report of the Soochow Hospital, says *The Provincial Medical Journal.* It is obtained by placing a frog in a jar of flour and irritating it by prodding it. Under these circumstances it exudes a liquid which forms a paste with a portion of the flour. This paste dissolved in water was found to possess well-marked anæsthetic properties. After the finger had been immersed in the liquid for a few minutes it could be pricked with a needle without any pain being felt, and numbness of the lips and tongue were produced by applying the liquid to them.

—The *Medical News* says that the Exposition of the Hygiene of Infancy at Paris, was opened, on June 24th, by an address from its president, the recitation of a poem, and by music from the Guard of the Republic. It embraces all possible appliances for maintaining the lives of infants, and all substances and articles known to be of value in treating the diseases of infancy.

During the exposition open conferences will be held morning and afternoon, the first of which will be reserved for mothers. Vaccination will be performed every Monday.

— It is well known that a cold sensation reaches consciousness more rapidly than a sensation of warmth. Dr. Goldscheider, of Berlin, whose researches on the hot and cold points of the skin have gained him a well-deserved reputation, is reported in *Science* to have recently accurately measured the length of the time necessary to perceive these sensations. The observations were made on parts equally sensitive to heat and cold, and with intensities of heat and cold equally different from the temperature of the part. The time of contact was recorded electrically by means of a metallic button fixed to the skin. Contact with a cold point was felt on the face after 13.5, on the arm after 18, on the abdomen after 22, on the knee after 25, hundredths of a second. The sensation of a hot point was felt on the same surfaces after 19, 27, 62, and 79 hundredths of a second respectively. This great difference in time has an important theoretical bearing on the physiology of dermal sensations.

—The *Annals of Hygiene* cites a curious and in some cases possibly most serious blunder in the English construction of a sentence containing directions for a sanitary test. At a recent meeting of the Philadelphia Board of Health it was resolved that the agents of S. Maw, Son & Thompson, be notified that the so-called pure water test now upon the market is dangerous by reason of careless directions for its use. The test contains a poison, and under the head of directions for use is the following: "Pour a wine-glass full of water to be tested into the tumbler, then by a smart blow break the bulb at the end of the crusher. If the water remains perfectly clear, it may be drunk with safety." The person drinking it would take a poisonous dose of iodide of mercury.

—A curious outbreak of convulsionists mania, analogous to those which occurred from time to time during the Middle Ages, is reported by a foreign contemporary to have shown itself at Agosta, in the province of Rome. For some weeks past the country people have been laboring under the delusion that the district is under the immediate government of the Evil One, and before retiring to rest they carefully place on the threshold the broom and the salt, which are credited with the power of keeping off evil spirits. Many of the younger women have epileptiform attacks, during which they utter piercing shrieks, and are violently convulsed. So serious had the condition of things become, that the syndic of Agosta found it necessary to inform the Prefect, who sent detachments of soldiers into the district in order to calm the apprehensions of the inhabitants. The contrast between this strictly phyical way of dealing with the disease and the more imposing but less effectual religious ceremonies formerly employed must be interesting to historical students. As a natural consequence of this condition of mental perturbation, the country is overrun with quacks who claim to possess the only infallible remedy for the seizures. One of these nostrums, the vendor of which was making a rich harvest from its sale, was found on analysis to consist of earth, snuff and borax. Three medical men who were commissioned to investigate the cause and nature of this extraordinary affection, came to the conclusion that it was an epidemic of hysteria. They examined a number of the sufferers, mostly young women, some of whom were alleged to have vomited nails, horseshoes, and other equally indigestible substances, while others barked like dogs. Several of them were removed to Rome for treatment in the hospitals there, and measures have been taken to check the spread of the mischief. In a milder degree, this contagious form of hysteria is not infrequent, especially in places where ignorance and superstition favor

manifestations of nervous disorder. The worst excesses of popular outbreaks, like the French Revolution, have been attributed to similar influences, and with every appearance of justice.

NEW YORK.

—The American Association for the Advancement of Science has been holding its annual meeting at Columbia College during the past week, and the attendance has been very large. On the opening day an address of welcome was made by the Rev. Dr. F. A. P. Barnard, President of the College, and the general secretary announced that since the meeting at Buffalo, last year, over two hundred members had been added to the Association, while some two hundred papers had been submitted to be read before the different sections. Among the papers read was a valuable one by Dr. D. G. Brinton, of Philadelphia, Chairman of the Section of Anthropology, entitled "A review of the Data for the Study of the Prehistoric Chronology of America," in the course of which he said that in the Trenton gravels and in other localities, genuine paleolithic remains had been found which put man in America at a date cœval with the close of the glacial epoch, if not earlier. The vast antiquity of the American race was further proved by the extensive dissemination of maize and tobacco, tropical plants of Southern Mexico, which were cultivated in remote ages from Canada to Patagonia. There were, he said, about two hundred radically different languages in North and South America. Such a confusion of tongues could only have arisen in hundreds of centuries, and the study of these languages and the gradual growth of their dialects supplied valuable data for the ancient history of the Continent. The American race was distinctly a race by itself, and the oldest crania, collected from the most ancient quaternary deposits, were thoroughly American in type. As the discovery of implements in glacial deposits fixed man on this continent at least at the close of the glacial epoch, this carried his residence here to about 35,000 years ago. But there was no likelihood that he originally came into being in America. More probably he migrated along the preglacial land bridge which once connected Northern America with Western Europe; and later other tribes no doubt came from Asia.

On the second day, Dr. William Thompson, Professor of Ophthalmology in the Jefferson Medical College, Philadelphia, read a paper on "Color-Blindness among Railroad Employees," in which he said that the conflict between the officers and the employees of the Reading Railroad, which has occupied the attention of the public, and threatened to produce a suspension of work on that road, had reopened the question of color-blindness. In July last, 25,158 employees were examined on lines east of Erie, of whom 181 were color-blind, 661 had defective vision, and 158 had defective hearing. The officers of the Pennsylvania Railroad and other railways had now adopted Dr. Thompson's system of examination.

Prof. Alfred H. Leeds, of the Stevens Institute, Hoboken, read a paper on the "Causes, Progress, and Cure of the Recent Great Outburst of Typhoid Fever at Mount Holly, New Jersey." The outbreak, he said, was due to the pollution of the water-supply of the place by the defective sanitary arrangements of a large boarding-house. The purification of water could be accomplished economically by the addition of alum, which destroyed bacteria, and where water so treated had been filtered, it was found to be clear and wholesome. Professor Leeds also read before the Section on Mechanical Science and Engineering a paper on the "American System of Water-Purification," the distinctive features of which are: (1) Artificial aëration under pressure; (2) precipitation of dirt, sewage, hardening constituents, and coloring matters by harmless precipitants; and, (3) mechanical filtration through filters capable of rapid reversal of current, and cleansing by mechanical means.

Much interest was felt in two papers on the food question, which were read before the Section on Economic Science and Statistics by Prof. W. O. Atwater, and which are to be published in the *Century*. The first was on "The Physiological and Pecuniary Economy of Food," and the second on "The Food of Workingmen, and its Relation to Work Done." On the evening of August 11th, a brilliant reception was held at the Metropolitan Opera House, and the week's programme also included excursions up the Hudson and to the city institutions along the East River.

DEATH BY DECAPITATION.

IT is probably due to the fact that the prescribed methods in France for executing the death-penalty offer peculiar facilities to scientific investigation, rather than to any predilection for the grimmest of all studies in experimental physiology, that our French confrères have reported so many observations on the nervous and other phenomena of the first few seconds after sudden death. The latest observations by Drs. Regnard and Loye, in the *Progrès Médical* of July 9, and the *British Medical Journal* of July 23, enforce the fact that death by the guillotine is quite another thing than that method employed judicially by the Anglo-Saxon race. The examination was made of the head and body of a convict immediately after his decapitation by the guillotine. The prisoner was calm to the last, and not pale, even when his neck was fixed ready to receive the fatal knife. Two seconds after decapitation the cheeks were still rosy, the eyes wide open, with moderately dilated pupils, the mouth firmly closed. No fibrillary contractions could be observed. When a finger was placed close to one eye, no change of expression took place; but on touching an eye or the tips of the lashes, during the first five seconds, the lids closed just as in life. This reflex action could not be elicited from the sixth second after decapitation. The jaws were tightly clenched, and could not be opened by manual force; no similar muscular contraction could be detected in the trunk or extremities. One minute after death the face began to turn pale, the trunk remained flaccid,

the carotids continuing to throw out blood remaining in the circulatory area. At the end of four minutes the face was quite pale, the upper lids were half closed, the jaws less firmly clenched than before. Irritation of the cut surfaces of the spinal cord failed to produce reflex movements either in the trunk or on the face. For twenty minutes there was no change; then the necropsy was begun. There were signs of old pleurisy and alcoholism. The heart beat actively. On opening the pericardium, the ventricles and auricles continued to pulsate for twenty-five minutes; the former then ceased to beat, but the auricles went on for forty minutes longer. Thus the heart beat for an hour after decapitation. Then its chambers were laid open; the left ventricle was firmly contracted, the right relaxed. There was emphysema at the edges of the left lung, as is nearly always observed after death by the guillotine. There were bubbles of air in the vessels of the pia mater, and much air in the subarachnoid space. The knife had passed through the lower part of the fourth cervical vertebra. These researches show that not a trace of consciousness remains two seconds after beheading; that reflex movements of the cornea can be excited for a few seconds; that the heart may beat for an hour, the auricles continuing to pulsate alone for over half that period; and that, putting aside the reflex movements of the eyelid, the contraction of the jaws and the jets of blood from the carotids, it seemed in this case as though a corpse had been decapitated, so inert were the remains of the convict. The entry of air into the inextensible and incompressible cranial cavity, after the escape of blood from its vessels, was only to be expected. Drs. Regnard and Loye note how calm and free even from physiological death-struggle symptoms is death by the guillotine. There is not even asphyxia; death is rather due to inhibition similar to that described by M. Brown-Séquard in animals who succumb to certain irritations of the nervous system.

Correspondence.

THE OUNCE TROY AND THE OUNCE AVOIRDUPOIS. CORRECTION.

Trenton, N. J., August 12, 1887.

Mr. Editor,—Either through my mistakes or those of your printers, my letter to you as printed last week, is particularly unintelligible. The second paragraph should be as follows:

One ounce Troy (℥) is equal to one ounce avoirdupois and 42.5 grains over; and the one-eighth ounce bottles of the wholesalers contain not *one drachm* (℥) but 54.7 grains Troy; and if Dr. Morse's calculations are made on the *one drachm* (℥) basis his patient took, not 51 grains of morphia, but about 45.7 grains.

If you deem it of sufficient importance, please make the correction and oblige, Yours very truly,

Horace G. Wetherill, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 6, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	928	412	30.49	12.09	2.78	1.49	23.44
Philadelphia	993,801	592	292	31.62	1.19	4.93	1.70	21.42
Brooklyn	745,108	415	215	31.44	8.64	.48	3.12	26.64
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	220	112	31.95	6.75	1.35	2.25	24.75
Boston	400,000	260	150	40.95	9.36	.39	1.95	36.27
New Orleans	242,750	110	42	17.27	8.18	—	1.82	7.27
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	104	48	35.52	8.64	5.60	.96	22.08
Pittsburgh	210,000	132	77	54.72	6.86	6.08	3.80	41 04
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	98	70	48.96	3.06	1.02	5.10	34.68
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	20	9	25.00	5.00	10.00	—	10.00
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	18	7	27.77	5.55	5.55	—	22.22
Worcester	68,383	23	16	34.80	4.35	4.35	—	30.45
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,680	—	—	—	—	—	—	—
Fall River	56,863	57	43	61.25	3.50	5.25	—	52.50
Lynn	45,861	22	15	45.50	9.10	4.55	4.55	40.40
Lawrence	38,825	16	8	30.75	6.25	—	—	30.75
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	23	18	34.80	4.35	4.37	—	30.45
Somerville	29,992	17	10	41.16	5.88	—	—	41.16
Salem	28,684	19	8	31.56	10.52	—	10.52	21.04
Holyoke	27,894	11	7	36.36	9.09	—	—	36.36
Chelsea	25,709	17	11	52.92	5.8o	—	-	52.92
Taunton	23,674	10	6	30.00	—	—	—	30.00
Haverhill	21,795	14	8	50.00	7.14	—	14.28	35.70
Gloucester	21,713	10	6	—	10.00	—	—	—
Brockton	20,783	3	0	—	33.33	—	—	—
Newton	19,759	12	2	25.00	8.33	—	—	25.00
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	16	11	37.50	6.25	—	—	37.50
Waltham	14,609	4	2	25.00	25.00	—	—	25.00
Newburyport	13,716	7	4	56.12	—	—	—	56.12
Northampton	12,896	9	6	55.55	—	11.11	—	44.44

Deaths reported 3,187: under five years of age 1,015; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 1,083, consumption 253, lung diseases 90, diarrhœal diseases 839, diphtheria and croup 77, typhoid fever 76, whooping-cough 29, malarial fever 22, measles 15, scarlet fever 15, cerebro-spinal meningitis seven, erysipelas two. From whooping-cough, New York nine, Philadelphia seven, Baltimore and Milwaukee four each, Boston three, Pittsburgh two. From malarial fevers, New Orleans eight, Philadelphia, Brooklyn and District of Columbia three each, Nashville and New York two each, Baltimore one. From measles, New York five, Philadelphia four, Baltimore and Pittsburgh, two each, Milwaukee and Fall River one each. From scarlet fever, New York seven, Philadelphia four, Brooklyn and Boston, two each. From cerebro-spinal meningitis, New York, three, Milwaukee two, Fall River one. From puerperal fever, Philadelphia two, New York, Baltimore, Pittsburgh and Milwaukee one each. From erysipelas, Philadelphia and New Orleans, one each. From small-pox, New York one.

In the 20 cities and greater towns of Massachusetts, with a population of 940,875 (population of the State 1,941,465) the total death-rate for the week was 30.01 against 32.86 and 27.41 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending July 23d, the death-rate was 22.2. Deaths reported 3,937: infants under one year of age 1,597; acute diseases of the respiratory organs (London) 174; diarrhœa 100, whooping-cough 162, measles 100, scarlet fever 54, diphtheria 29, fever 27.

The death-rates ranged from 11.7 in Derby to 36.7 in Preston; Birkenhead 27.2; Birmingham 16.1; Hull 15.1; Leeds 22.5; Leicester 32.4; Liverpool 24.1; London 24.5; Manchester 23.4; Nottingham 17.7; Portsmouth 13.2; Sheffield 18.6; Sunderland 15.7.

In Edinburgh 18.8; Glasgow 21.5; Dublin 29.9.

The meteorological record for the week ending August 6, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Aug. 6, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...31	29.87	78.0	88.0	75.0	83.0	68.0	68.0	73.0	S.W.	S.W.	W.	9	12	12	F.	O.	O.		
Monday,.. 1	29.92	74.0	80.0	70.0	82.0	59.0	82.0	74.0	W.	E.	S.E.	4	9	5	C.	C.	C.		
Tuesday,.. 2	29.96	68.0	73.0	66.0	95.0	90.0	98.0	94.0	N.E.	E.	S.E.	4	10	3	R.	O.	O.	12	.35
Wednes.,.. 3	30.11	68.0	71.0	65.0	90.0	81.0	92.0	88.0	N.E.	E.	S.E.	4	7	3	O.	C.	C.		
Thursday, 4	30.18	68.0	72.0	64.0	87.0	83.0	88.0	86.0	S.E.	S.E.	S.	4	6	8	O.	F.	C.		
Friday, ... 5	30.02	72.0	81.0	63.0	90.0	64.0	88.0	81.0	S.W.	S.	S.	7	12	7	O.	O.	O.	3	*T
Saturday,. 6	29.77	74.0	85.0	70.0	89.0	91.0	86.0	89.0	S.	W.	N.	12	11	8	O.	R.	F.	3½	.16
Mean, the Week.	29.976	71.7	79.0	67.0				83.6										18½	.51

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 6, 1887, TO AUGUST 12, 1887.

McKEE, J. C., major and surgeon. Ordered for duty at Watertown Arsenal, Mass. S. O. 181, A. G. O., August 6, 1887.

BROWN, H. E., major and surgeon. Sick leave extended to August 6, 1887, on account of sickness. S. O. 184, A. G. O., August 10, 1887.

CLEARY, P. J. A., major and surgeon. Ordered to Fort McDowell, A. T., instead of Fort Assinniboine, M. T. S. O. 180, A. G. O., August 5, 1887.

DICKSON, JNO. M., captain and assistant surgeon. Died August 8, 1887. (Station Fort Mason, Cal.)

MERRILL, J. C., captain and assistant surgeon. Ordered from Fort Klamoth, Oregon, to Watervliet Arsenal, N. Y. S. O. 181, A. G. O., August 6, 1887.

HOPKINS, WM. E., first lieutenant and assistant surgeon. Ordered from Angel Island, Cal., to Fort Mason, Cal. S. O. 184, A. G. O., August 10, 1887.

ANDERSON, C. L. G., first lieutenant and assistant surgeon. (Station, Whipple Barracks, A. T.) Ordered to Fort McDowell, A. T. S. O. 81, Department of Arizona, August 3, 1887.

MACAULEY, C. N. B., first lieutenant and assistant surgeon. Promoted to be Assistant Surgeon, with the rank of Captain by operation of law, August 10, 1887.

PILCHER, J. E., first lieutenant and assistant surgeon. Ordered from Fort Monroe, Va., to Fort Wood, New York Harbor. S. O. 180, A. G. O., August 5, 1887.

SUTER, WM. N., first lieutenant and assistant surgeon. Ordered to return to Washington Barracks, D. C., on the breaking up of the Camp at Creedmoor, N. Y. S. O. 156, Division of the Atlantic, August 10, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING AUGUST 6, 1887.

IRWIN, FAIRFAX, passed assistant surgeon. To inspect unserviceable property at New York Marine Hospital, August 5, 1887.

CARTER, H. R., passed assistant surgeon. Granted leave of absence for six days, August 1, 1887.

BEVAN, A. D., passed assistant surgeon. Granted leave of absence for ten days, August 5, 1887.

NORMAN, SEATON, assistant surgeon. Granted leave of absence for four days on account of sickness, August 5, 1887.

BOOKS AND PAMPHLETS RECEIVED.

Annual Catalogue of St. Paul Medical College in the City of St. Paul, Minn., 1887–88.

Intubation of the Larynx. By E. Fletcher Ingals, M.D., Chicago. 1887. (Reprint.)

Twenty-Seventh Announcement and Catalogue of the Eclectic College of the City of New York. Session of 1887–88.

Beitrag zur supravaginalen Absetzung des Uteruskörpers. Von Dr. A. Martin, Docent an der Universität, Berlin. 1887.

National Academy of Sciences. Vol. III. Fourteenth Memoir. On a New Craniophore for use in making Composite Photographs of Skulls.

A Review of the most Important Advances in Surgery, Medicine and Pharmacy in the Last Forty Years. By C. W. Moore, M.D., San Francisco. 1887. (Reprint.)

Manual of the United States Hay-Fever Association, for 1887, containing a Report of the Annual and Adjourned Meetings of 1886, Prize Essays, etc. Lowell, Mass.: S. W. Huse & Co. 1887.

On some Important Points in the Treatment of Deep Urethral Stricture. By F. N. Otis, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York. New York: D. Appleton & Co. 1887. (Reprint.)

Progressive Spastic Ataxia (combined Fascicular Sclerosis) and the Combined Sclerosis of the Spinal Cord. By C. L. Dana, M.D., Professor of Nervous and Mental Diseases, New York Post-Graduate Medical School, Visiting Physician to Bellevue Hospital, New York. 1887. (Reprint.)

A Handbook of General and Operative Gynecology. Volume I. By Dr. A. Hegar (University of Freiburg) and Dr. R. Kattenbach (University of Giessen). In two volumes. This is also Vol. VI. of "A Cyclopædia of Obstetrics and Gynecology," issued monthly during 1887. New York: Wm. Wood & Co.

Pulmonary Consumption. Its Etiology, Pathology and Treatment with an Analysis of 1000 Cases to exemplify its Duration and Mode of Arrest. By C. J. B. Williams, M.D., LL.D., F.R.S., and Charles Theodore Williams, M.A., M.D., Oxon. Second Edition. Enlarged and re-written with four colored plates and ten wood-cuts. Philadelphia: P. Blakiston, Son & Co. 1887.

Original Articles.

FRACTURE OF THE SPINE: ITS IMMEDIATE TREATMENT BY RECTIFICATION ON THE DEFORMITY AND FIXATION BY PLASTER-OF-PARIS JACKET.[1]

BY HERBERT L. BURRELL, M.D., OF BOSTON.

From a practical point of view, we may consider dislocations and fractures of the spine together, and it will not be a difficult task to represent to the minds of most surgeons the utter hopelessness of this injury in most cases.

All authorities[2] agree that the prognosis depends largely upon the location of the injury, and the amount of damage done to the spinal cord. It is not the injury to the bony structures or ligamentous union, that renders this injury so fatal, but the pressure or crushing that takes place, of that wonderfully constructed spinal cord, which receives and transmits impressions to the various members of the body.

The spine itself is so complexly constructed, adapted to so many different movements and purposes, that we can really say, that when it receives an injury, the "back bone" of the human organism is broken.

The cord resting as it does in a bony canal, may be pressed upon by bony spiculæ from any side, it may be pressed upon or severed completely by some sharp fragment, or simply the anterior buttress or body of the vertebræ may be crushed upon itself, without any serious or permanent injury to the cord having occurred. This is illustrated in Plate VIII.

The higher the injury of the bony column, the greater fatality. Gurlt[3] reports that out of 178 cases where the cervical vertebræ were fractured, death occurred in 164, or 90¼%. Out of 184 in the dorsal region, death occurred in 146, or 79¾%. Out of 82 in the lumbar region, death occurred in 56, or 68⅓%. This ratio of mortality is quite what we should expect, as the nearer we approach the respiratory centre, the more fatal is the injury.[4]

By the courtesy of the surgeons of the Boston City Hospital, I have been enabled to collect all the cases (82) that have occurred in that Hospital, and have tabulated them, to ascertain what facts they will show. The lines represented in the next column present a synopsis of the detailed account that appears in the tables.

First, regarding the mortality of these cases, we find that the fatality is very great, and this is represented by Table A 1.

The fatality I have further analyzed to show mortality according to location. This is represented in Table A 2.

The striking immediate fatality of the accident is shown in Table A 3.

The recoveries have been divided into two classes: the first, where the patient was useful, in the sense of being self-supporting; the second, useless, where the patient is bed-ridden, and unable to earn a livelihood. So that we really have in these 82 cases of Fracture of the Spine, an apparent recovery of 22%, where really there is only 11% returned as producers in the community. This is shown in Table B.

The ratio of frequency of prominent symptoms occurring after fractures of the spine, is shown in Table C.

The utter hopelessness which is expressed in the term broken back, pervades the minds of all practitioners, and perhaps Erichssen[5] expresses the general feeling, when he says that "Fractures of the Spine through the bodies of the vertebræ with displacement, are inevitably fatal."

FREQUENCY of SYMPTOMS. Table C.

82	TOTAL CASES.
31	CREPITUS.
43	DEFORMITY.
18	UNCONSCIOUSNESS.
47	PARALYSIS COMPLETE.
6	PARALYSIS INCOMPLETE.
77	PAIN.
18	PRIAPISM.
12	DELIRIUM.
31	CYSTITIS.
27	BEDSORES

REGION. Table A-2.

82	TOTAL CASES.
28	CERVICAL.
3	RECOVERIES.
42	UPPER DORSAL.
4	RECOVERIES.
19	LOWER DORSAL.
1	RECOVERIES.
23	LUMBAR.
10	RECOVERIES.

MORTALITY. Table A.1.

82	TOTAL CASES.
64	DEATHS.
18	RECOVERIES.

TIME. Table A.3.

64	TOTAL DEATHS
39	WITHIN 5 DAYS.
8	WITHIN 10 DAYS.
7	WITHIN 1 MO.
10	AFTER 1 MO.

RESULTS. Table B.

18	TOTAL RECOVERIES
9	USEFUL
9	USELESS

The treatment of fractures of the spine may be divided into three principal heads:—

(*a*) Expectant. Water bed. Air bed. Wire bed. Bonnet's vertebral gutter. Extension and counter-extension.

(*b*) Operative. Trephining. Removal of bony fragments.

(*c*) Rectification of the deformity and fixation of the spine by plaster-of-Paris jacket or other apparatus.

(*a*) *Expectant.*—The statements made by Cline[6] and by Cooper[7] that we can accurately determine whether the body, or the arch, or the spine of a vertebræ is broken, is not supported by facts. Further,

[1] Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication by the Society.

[2] Sir Astley Cooper, Fractures and Dislocations of Joints; Malgaigne, Fractures and Dislocations; A. Shaw, Holmes System of Surgery; Gurlt, Handbuch der Lehre von dem Kurchenbrüchen, Hamm, 1864; Sir Charles Bell, Observations on Injuries of the Spine and of the Thigh Bone, 1824; Hamilton on Fractures and Dislocation; Bryant, Practice of Surgery.

[3] Ibid, p. 72.

[4] Bryant, ibid, p. 105.

[5] System of Surgery.

[6] Chelius's Surgery, Vol. 1, p. 000.

[7] Sir Astley Cooper on Dist. and Fract., 1851, p. 479.

Cline and Cooper believed that death was inevitable, sooner or later, if the fragment were not lifted by an operation.

This is possibly true, but specimens like Plate I and Plate II, show only too clearly that, at times, we have to do with an irremediable injury, and our duty in such cases is to pursue the expectant plan of treatment — that is, placing the patient on an air or water bed, and treating the symptoms as they arise. By this means we can prolong life, and make existence bearable. It is possible that a certain amount of relief may be obtained in these severest cases by permanent extension and counter-extension.

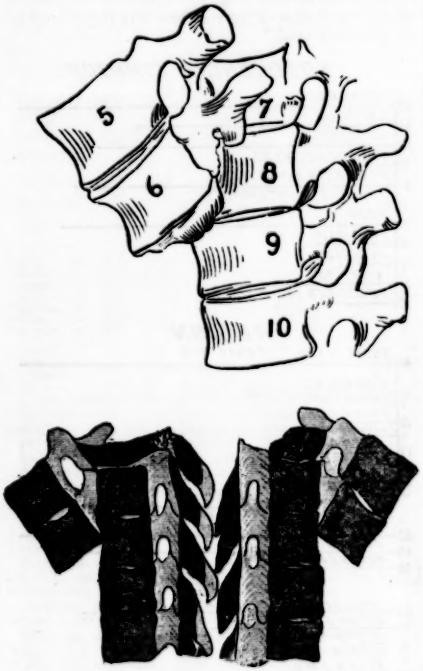


PLATE I. (No. 1229, Warren Museum.)
The patient fell 30 feet. Wild and irritable, complete paralysis, bed sores, cystitis, and death from exhaustion in two months. There has been a complete rupture of the intervertebral substance between the 6th and 7th vertebræ, the upper edge of the 7th being carried away to the right side with the 5th and 6th vertebræ. The state of the spinal cord in this case may be imagined.

Having decided that the expectant plan of treatment must be pursued in certain rare cases, we come to our second division, that of

(*b*) *Operative.*— What further can I say to you than has been said in that bitter controversy between Sir Charles Bell[8] and Sir Astley Cooper, as to the expediency of operations on the spine. Only on the parts posterior to the spinal cord, could an operation for a moment be entertained; for to attempt to remove the body of a vertebra after fracture of the spine from behind, would necessitate the division of the spinal cord; to attack it in front would be equally inadmissible, for the thoracic viscera, aorta, solar plexus, and vena cava would forbid; and an attempted removal from the side would be equally inexpedient.

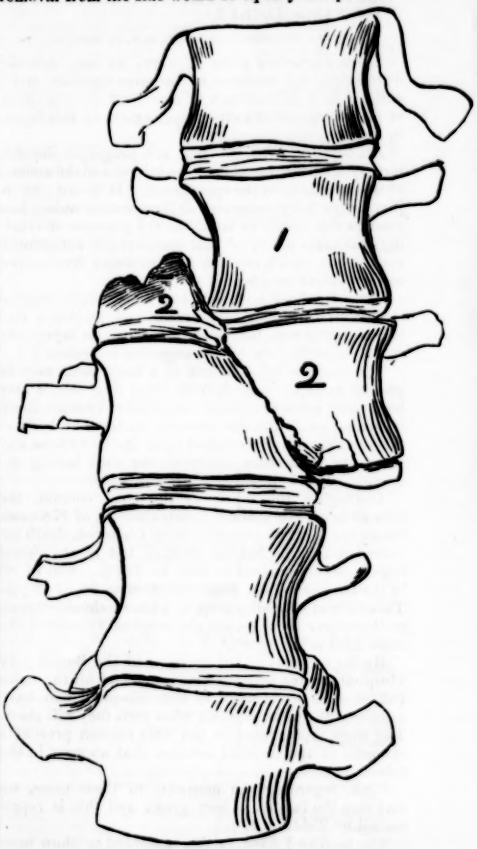


PLATE II. (No. 139, Warren Museum.)
T., æt. 19, run over by a fire engine. Complete paralysis, bed sores, cystitis, and died of exhaustion. There is a very extensive fracture and displacement of the 1st and 2d lumbar vertebræ. Cord completely destroyed.

Five cases have been operated upon at the Boston City Hospital. All ended fatally.

It may be of interest to see the status that this procedure should occupy in surgery. Paré, Heister, and many of the older authors discussed the propriety of excising portions of the vertebræ or trephining, but Henry Cline[9] first performed the operation at St. Thomas's Hospital, June 16, 1814. The patient lived seventeen days, and Mr. Cline admitted that the operation hastened the end. Lidell[10] failed to find a

[8] Observ. on Injury of the Spine and of the Thigh Bones.

[9] New England Journal of Medicine and Surgery, Vol. IV, No. 1, January, 1815

[10] On Injuries to the Spine. American Journal Medical Sciences, October, 1864, Vol. XLVIII, p. 320.

single well-authenticated successful case. It is certainly true that Legoust,[11] Jobert,[12] E. Gurlt,[13] Hamilton,[14] and Sir Charles Bell [15] all condemn the operation in unqualified terms.

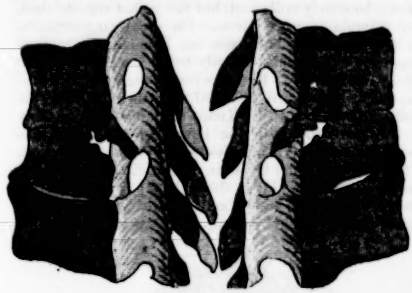


Plate III.

Gun-shot injuries, however, may be excepted from this sweeping condemnation, and all the reported successful cases of operation closely resembled that done by Louis [16] in 1762, where bony fragments were removed after a gun-shot fracture of the spine.

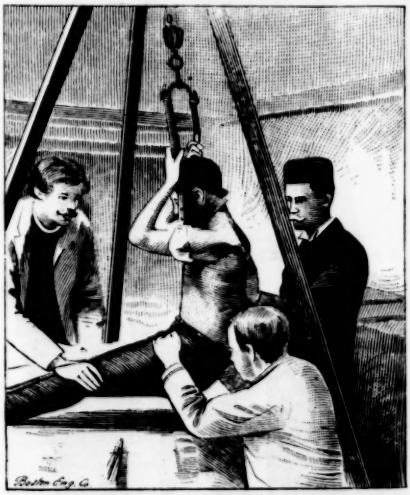


Plate IV.

The removal of fragments after gun-shot injuries to the spine is perfectly justifiable, and will, I believe, give a fair measure of success. In the War of the Rebellion,[17] "there were twenty-four cases of removal of fragments of the vertebræ after gun-shot fracture, with fatal results in only ten instances." In nine instances, however, of the fourteen examples of recovery, the spinous process, or fragments of it, only were removed. In the five cases of recovery, in which portions of the laminæ or the transverse processes were removed, the results were much less satisfactory, nearly all of the patients having serious disability.

On the other hand, the operating on fractures of the spine, not compound, is not a justifiable measure, and without further evidence supporting this operation, it will have to be placed among the impracticable efforts of experimental or venturesome surgery.

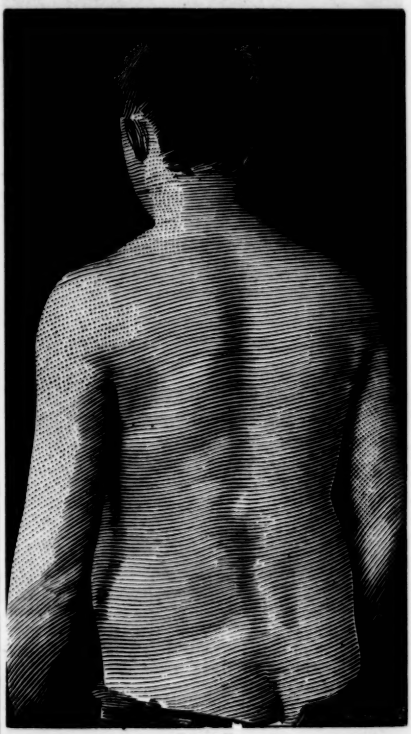


Plate V.

(*c*) *Immediate Rectification of the Deformity in Fracture of the Spine and Fixation by Plaster-of-Paris Jacket.* On the 10th of August, 1886, I saw the autopsy of a woman who had been under my care, with a fracture of the spine, in the Boston City Hospital (Plate III, Case 78), and found that a plate of bone from the posterior wall of the body of the twelfth dorsal vertebra had been broken off, in addition to an arching backward of the whole spine. This plate had pressed upon the cord, and had, in thirty-eight hours, led to red and white softening for a distance of fifteen mm. The presence of the plate

[11] Chirurgie d'Armee, pp. 341, 352.
[12] Plaies d'Armee a feu, Paris, 1833, p. 125.
[13] Handbuch der Lepre von dem Knochenbrüchen Hamm., 1864, p. 188.
[14] Treatise on Fractures and Dislocations, p. 187.
[15] Observations on Injuries of the Spine and of the Thigh Bone, 1824.
[16] Remarques et Observations sur les Fractures et la Luxation des Vertebræ. Mem. Path. Arch. Gen. de Med., 1836, LXI, 2 Série, p. 417.
[17] Hist. of the War of the Rebellion, Part 1, Surg. Vol., p. 459.

anterior to the cord showed me that an operative procedure would have been of no avail, and the *softening* occurred so early in the cord, led me to believe that, if aught was to be done to remedy the damage caused by a fracture of the spine, it must be done at once.[18]

The arching of the vertebræ suggested that the difficulty might be overcome by *immediately* pressing back the deformity, and fixing it in this corrected position.

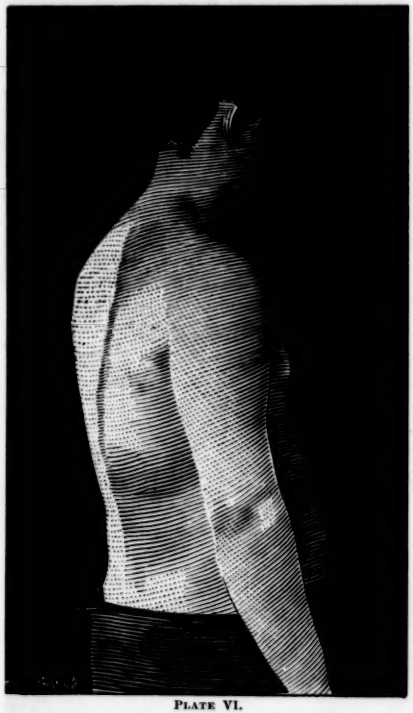


PLATE VI.

I determined to act upon this principle in the next case. On August 24, 1886, Case 17 was admitted, and was seen within twelve hours of the time of his fall of forty feet. The risks of immediate rectification and suspension having been explained to him, he was suspended, as represented in Plate IV, with this difference, that the tripod was placed over the head of the bed, a ward-master was placed upon a small table at either side of the patient, to lift up on the body at the axillæ. This, when one has many assistants, is a great aid to the patient. The back of the patient, while being changed from the horizontal to the perpendicular position, should be carefully supported, and when the patient is brought into an erect position, the buttocks are free from the table.

The deformity, which was at an angle of at least 30°, included the twelfth dorsal vertebra, was reduced, and a plaster-of-Paris jacket was quickly applied. An anæsthetic was not given, for I did not wish to have any danger masked. The patient's sufferings during the suspension, rectification, and application of the jacket were more intense than anything I have ever seen; he nearly collapsed, but the jacket was finished, and stimulants were given. On recovering himself, he said that there had been an immediate return of sensation in his limbs, directly following the reduction of the deformity. His recovery proceeded uninterruptedly. On April 23, 1887, for the first time, he walked out. Dr. P. C. Knapp examined him on May 1, 1887, and found in the left thigh and leg no galvanic reaction. All muscles react to faradic current. The right thigh and leg have no faradic reaction. He now walks with a halt in the right leg, and on May 5, 1887, was found acting as a bar-tender. Plates V and VI represent his present condition.



PLATE VII. (No. 140, Warren Museum.)

Fracture of 12th dorsal, with displacement; extensive laceration of inter-vertebral substance; cord almost completely severed; death, 9½ weeks; paralysis, bed sores, cystitis.

This procedure, at the time, I supposed to be an original thought, but soon found that other gentlemen in the same hospital had preceded me.

Five cases have been treated in this manner in the hospital to a completion. Dr. Wm. Ingalls on April 6, 1884, applied a jacket to a fractured spine, the deformity having rectified itself by suspension, but his

[18] Case 80. Red Softening in Cord. Death in eighteen hours.

patient unfortunately died. Dr. W. P. Bolles, on July 15, 1884, applied a splint of plaster-of-Paris at once to a fractured spine, and his patient recovered, but is useless. Dr. M. F. Gavin, on September 21, 1886, rectified the deformity in a fractured spine, having suspended a patient weighing over 200 pounds. Great dyspnœa and pain occurred. The jacket did absolutely no good, requiring to be cut up on the second day, and gaped nearly an inch. The patient died in two months, of exhaustion.

On November 26, 1886, by the courtesy of Dr. Gavin, I was again enabled to attempt the rectification of a fracture of the tenth dorsal vertebra, and applied a plaster-of-Paris jacket; this case was seen a short time after the fracture occurred. There was no paralysis, and the patient made a good recovery.

Of these five cases two have died, one is useless, and two have recovered.

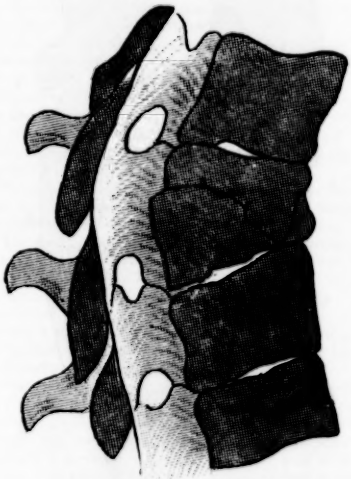


PLATE VIII. (No. 1376, Warren Museum.)
Diagram of a fracture of the body of a vertebra, not narrowing the canal materially.

Of the expediency of rectification of the deformity I can but think that an important lesson can be learned from a study of these drawings of specimens from the Warren Anatomical Museum. Plates I and II show that any efforts would be futile; while Plates VII, VIII, IX, X, and XI, are very suggestive as to the possibility of immediately rectifying the deformity.

The application of the plaster-of-Paris jackets for fracture of the spine is by no means a new idea, and the literature on the subject at my command, gives me the following facts:

In the fall of 1874, Professor Sayre states that he first applied a plaster-of-Paris jacket for Pott's disease and doubtless to his bringing this method of treatment of Pott's disease [19] before the profession, is due the present application of plaster-of-Paris jackets in fresh fractures of the spine.

[19] Succinct History of the Plan of Treatment of Pott's Disease by Suspension and the use of plaster-of-Paris Bandage, p. 4.

On June 25, 1879, J. R. Weist, of Richmond, Indiana, reduced a fracture of the ninth dorsal vertebra during suspension, and applied a plaster-of-Paris jacket. This was followed by a great relief to the pain, uninterrupted improvement, and a recovery of the patient on the 67th day.

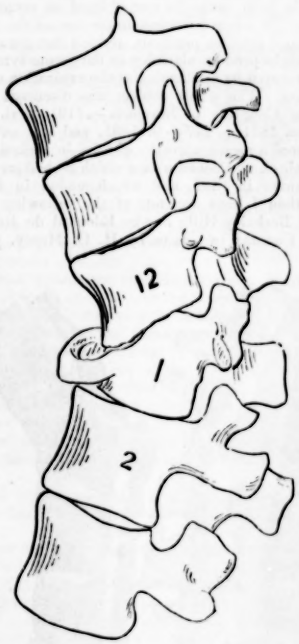


PLATE IX. (No. 941, Warren Museum.)
Fracture of 1st lumbar vert. Female, æt. 19; fall, 20 ft., striking on nates. Spinal canal encroached upon. Symptoms, — Complete paralysis, immediate. Results, — Moderate improvement after 3 weeks; power of sphincters regained.

Dr. Weist says that when he applied the plaster dressing in this case, he was not aware that it had been used in such cases; but he learned from Dr. Sayre that it had been used several times in a similar manner at Bellevue Hospital with very satisfactory results, and says that probably others also have used the plaster jacket in this way. However this may be, Dr. Weist made the report at the request of Professor Sayre, and with the exception of an allusion to a case of Spratley's by Reginald Harrison, shown at the Liverpool Medical Institution [20] Dr. Weist's case is the earliest published record of the procedure that I have been able to find.

In the remainder of the year, 1879, I find five cases treated in this manner. König, of Gottingen, in 1880, said that having used suspension and plaster-of-Paris jackets for caries of the vertebræ, where there was paralysis, with great improvement, he was led to apply

[20] Surgical Diseases of the Urinary Organs (Lectures on), p. 51, by R. Harrison, at the season, 1878-79.

a similar treatment to fresh fractures of the spine. He did not advocate its employment in all cases, but in his three cases the results were favorable.

He said that doubtless the method had been employed in other hospitals, and he wrote the paper as a contribution to the subject. Wagner, of Königshutte, reported two cases with which he was not at all satisfied. In both cases he was obliged to remove the jacket. He advised caution in the use of the jacket, had seen it produce paralysis, and felt that the replacement might produce alarming or dangerous symptoms. He advocated its application at the expiration of fourteen days. The whole subject was discussed at the German Congress of Surgeons — (19) Berl. Klin. Wochen. 1851, p. 247 — in 1881, and was evidently considered a measure worthy of trial in picked cases. Langenbeck mentioned a case which he had treated in this manner in 1862, and which ended in failure. Since then I have accounts of the following cases: One by Berkeley Hill; one by Edouard de Reynier; one by Carson; two cases by H. O. Marcy, private letter.



PLATE X. (No. 4629, Warren Museum.)
Old fracture 12th dorsal. Upper edge has been broken away from body of centrum. 12th dorsal vertebra is crushed anteriorly. Considerable narrowing of canal, opposite upper edge of 12th dorsal vertebra.
C. A., æt. 18; fell on plank floor. Paralysis, bed sores, cystitis; death after 2 8-12 years. Cord considerably disorganized at seat of injury.

No attempt has been made to investigate cases where a jacket has been applied after the tenth day following an injury. This gives us sixteen cases, in which three died, three derived no benefit from the method, and ten were greatly benefited.

The subject may be summarized, and I submit the following conclusions:

First, That, in the *immediate* correction of the deformity and fixation with plaster-of-Paris jacket or other means, we have a rational method of treating a large number of cases of fracture of the spine.

Second, That, considering the hopelessness of results in fracture of the spine when treated expectantly, almost any risk is justifiable.

Third, That the *immediate* correction of the deformity is imperative, *if* softening of the cord can and does occur from pressure, at the end of forty-eight hours.

Fourth, That the suspension of the patient is only a means of rectifying the deformity, that certain fractures could be simply pressed into position while the patient lies prone or supine.

The objections to the treatment are,—

(1) That the expectant plan of treatment gives a small percentage of recoveries.

(2) That there are serious risks, especially in the cervical region, attending the suspension of a patient and the rectification of the deformity with a fractured spine in the way of shock, collapse and death.

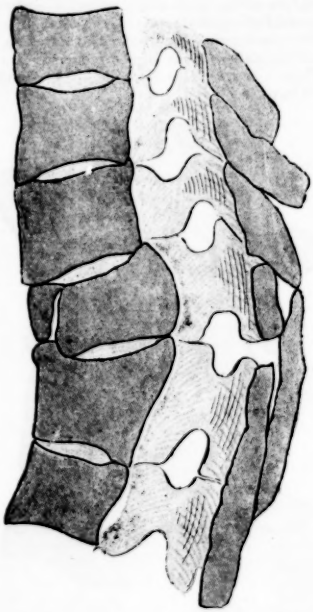


PLATE XI. (No. 938, Warren Museum.)
Fracture 4th dorsal; longitudinal section, showing backward displacement and narrowing of canal. Female, æt. 25; fall, 15 feet; paralysis (complete); bed sores; death, 9 weeks.

(3) That in attempting to relieve pressure on the cord, by rectifying the deformity, that we might either sever the spinal cord or make pressure upon it. This is a matter of chance.

My own belief regarding the status that the procedure should occupy in surgery, is: that it will occasionally be a life-saving measure; that it should be applied under anæsthesia in all cases of fracture of the spine, which are not conclusively known to be irremediable; and that apart from the chance of recovery that is offered to the patient by this means, it will almost invariably make the patient more comfortable, in that he can be handled more easily.

In conclusion, I wish to acknowledge my indebtedness to Drs. H. W. Cushing, E. G. Brackett, and W. H. Prescott, for valuable assistance rendered, in preparing details of this paper.

SEPSIS AND ANTISEPSIS IN SUMMER DIARRHŒA.[1]

BY SILAS ALLEN POTTER, M.D., OF ROXBURY.

WRITERS upon summer diarrhœa appear to be agreed that fermentation holds an intimate relation to the disease.

Dr. H. C. Haven,[2] writes, "It will, I think, be universally admitted that, in its totality, summer diarrhœa of infants is a zymotic or fermentative disease."

Maxmilian Herz[3] states in regard to cholera infantum, "It is pretty generally admitted that putrefaction of food, as Baginsky maintains, is an important cause of cholera infantum."

J. Lewis Smith[4] says of infantile diarrhœa of summer, "Undoubtedly one of the most important causes is to be found in the very free exhalations arising from decomposing animal and vegetable matter during the heated term, and the disease is always most frequently met with in those localities where the accumulation of filth is the greatest."

It is the object of this paper to collect the more important facts about fermentation, and consider their relation to the disease in question.

The terms sepsis and antisepsis we wish to employ in a broad sense, to indicate, on the one hand, injurious effects resulting from micro-organisms; on the other, influences adverse to the life or activity of micro-organisms.

The alcoholic fermentation is caused chiefly by the yeast fungus, torula cerevisiæ; the bacillus lactis is certainly one cause of lactic acid fermentation, and the bacillus butyricus is one cause of the butyric acid change in rancid butter. Of these three fermentative processes it may be affirmed that the principal organism concerned in their production has probably been determined. The organisms referred to have been isolated, a pure cultivation of them introduced into an appropriate sterilized medium, and the proper chemical decomposition obtained.

Other fermentations, such as the acetic, ammoniacal, viscous, putrid, have not been studied with the accuracy which the later methods of research permit. Though due to bacterial action, it is impossible to designate a particular organism as their sole or chief cause. The micrococci found in putrefying material are yet undifferentiated, and the bacterium termo, believed by Cohn to be the essential cause of putrefaction, has already been proved to be a name covering more than a single variety of organism. It is not improbable that the same may be shown to be the case with the micrococcus ureæ, the bacterium aceti, and others.

However, it is not so much with the particular organisms producing these changes that we are now concerned, as with the grand fact, apparently accepted by bacteriologists, that the cause of fermentation and putrefaction is vital. "Micro-organisms" writes Carl Fraenkel,[5] "are the producers of fermentation, and, what in the economy of nature is a still more important part to play, are the cause and the only cause of the putrefaction of organic substances." When it was proved that the exclusion of bacteria from a wound was what averted the traumatic infective diseases, a scientific basis was at once given to antiseptic surgery. If we believe that summer diarrhœa in a very large number of instances would not occur but for fermentation, the recognition of the cause of fermentation is the initial step toward an understanding of the disease.

The action of fermentative organisms in causing diarrhœa is probably indirect, the immediate agents being substances produced by the microbes through the decomposition of the fluids in and upon which they live.

According to Flugge,[6] the chief products of bacterial action are: gases, as CO_2, H, CH_4, H_2S, NH_3; water; sulphur; volatile bodies, as trimethylamin, alcohol, formic acid, acetic acid, butyric acid; fixed acids, as lactic, malic, succinic, oxalic, tartaric; sulphoacids, as taurin, amides of the fatty acids, especially leucin, alanin; bodies of the aromatic series, as tyrosin, phenol kresol; reduction products, as indol, hydroparacumaric acid; complex molecules, as carbo-hydrates, pepton, hydro-lytic ferments; coloring matters; and poisonous alkaloids.

Of these substances two classes, some members of which, at least, are produced by the bacteria of fermentation, are interesting in the study of summer diarrhœa: the acids and poisonous alkaloids.

Acids can excite diarrhœa by immediate irritation of the mucous membrane of the bowel, the alkaloids indirectly by systemic effect. The simpler, less violent cases of diarrhœa can often be traced to the irritation of undigested food and the acrid substances produced by its fermentation; the more sudden and violent cases often appear to call for the agency of a poison.

It was long ago noticed that serious illness oftentimes followed the eating of decomposing meat, fish or cheese.

Kerner seems to have been the first to suspect that alkaloids were formed by the decomposition of albumen, and in 1820 called attention to the similarity between the poisoning by sausages and atropia.

Panum, in 1856, demonstrated that putrefying substances often contained poisons which, when injected into animals, caused death. That death was not due to the activity of bacteria introduced into the body, he showed by sterilizing the fluid before injection. He also proved that the inflammatory changes in the intestinal mucous membrane of animals poisoned with putrid material was not caused by the bacteria in the putrid fluid but by chemical substances which retained their character even after boiling.

Solmi, of Bologna, gave to these alkaloids formed by the decomposition of proteids, the name of ptomaïnes.

Necki, in 1876, first obtained ptomaïnes in a pure form, and determined their chemical symbols.

Brieger, however, in 1885, produced the most important results which have been obtained in this branch of investigation. From putrefying meat he isolated three alkaloids which he called neuridin ($C_5H_{14}N_2$), neurin ($C_5H_{13}NO$), and cholin ($C_5H_{15}NO_2$). From putrefying fish he obtained neuridin, muscarin ($C_5H_{15}NO_3$), gadanin ($C_7H_{17}NO_2$), and a base allied to æthylendiamin ($C_2H_4(NH_2)_2H_3O$). From decomposing gelatine he separated neuridin, muscarin and dimethylamin. Of these, neu-

[1] Read before the Massachusetts Medical Society, June 8, 1887, and recommended for publication by the Society.
[2] Med. Communications of the Mass. Med. Society, 1886.
[3] Wiener Klinik, 1882.
[4] Medical Record, May 25, 1878.
[5] Grundriss der Bacterienkunde, Berlin, 1887.
[6] Die Micro-organismen. Leipzig, 1886. Also W. Watson Cheyne, American Journal of the Medical Sciences, October, 1886.

ridin is most constantly found in commencing putrefaction. The presence of the others seemed to depend in some degree upon the special substance undergoing decomposition. From putrefying human bodies Brieger obtained several alkaloids, neuridin, cholin, cadaverin ($C_5H_{16}N_2$), putrescin ($C_4H_{12}N_2$), saprin ($C_5H_{16}N_2$), trimethylamin ($(CH_3)_3N$), dimethylamin, triæthylamin, mydaleïn, and a substance of undetermined composition.

The physiological action of these various compounds differs widely. Some, as neuridin, cadaverin, putrescin and saprin are either harmless, or must be injected in very large amounts to produce toxic symptoms; others are violent poisons. Of the latter, there are five which bear an interesting relation to summer diarrhœa: neurin, muscarin, cholin, mydaleïn and the substance of undetermined composition. The action of the first three is essentially identical. The most important symptoms produced by a fatal dose are salivation, vomiting and diarrhœa, dyspnœa, paralysis and death. Mydaleïn, when injected into guinea-pigs, even in the very minute quantity of three-fortieths of a grain, caused profuse secretion from the eyes, nose, mouth, and intestine, dilated pupils, exophthalmos, an increase of temperature, paralysis, fibrillary twitching of muscles, dyspnœa and death. In cats the result was not essentially different, diarrhœa being prominent as before. The substance whose composition was not determined, produced in rabbits and guinea-pigs, excessive peristalsis and exhausting diarrhœa. In general, it may be said that most of the alkaloids obtained by the decomposition of albumen have a tendency to produce diarrhœa.

It does not follow that, because ptomaïnes capable of exciting diarrhœa are formed outside of the living human body, they are formed likewise within. There are, however, strong reasons for believing that such may be the case.

Substances capable of putrefaction are present in the digestive canal. Of such, the most common in children is milk, but in neither adults nor children can any article of food be assumed to be absent. In many cases, beside food, there will be mucus, serous exudation from inflammatory surfaces, blood, pus and sloughs.

The micro-organisms which accompany and are believed to cause putrefaction, exist in the digestive tract. Johnston, in the examination of the vomitus of seventeen breast-fed infants affected with summer diarrhœa, found invariably micrococci and what is known as bacterium termo. He discovered in diarrhœal fæces innumerable bacteria, especially of the two varieties mentioned. Since the digestive canal is not free from bacteria in health, it must be inferred that while the digestive function is normal, certain conditions exist by which organisms are held in subordination. Spallanzani found that when substances, in which putrefaction had already begun, were introduced into a living stomach, the process was checked. It may be supposed that in order to initiate fermentative changes, organisms enter the body in uncontrollable numbers, or that digestion is in whole or in part suspended.

The products of fermentation are found. With the sour vomitus and the acrid or foul stools of summer diarrhœa, all are familiar. The search for alkaloids in diarrhœal excrement has probably not been made, but such have been found in healthy fæces, and that freshly-voided fæces are poisonous has been proved by Bouchard. It is probable that the amount of poisonous alkaloids formed in disease is greater than in health, and also that their quantity and the conditions under which they are produced render them less subject to the eliminative action of the body.

What is known of ptomaïnes throws light upon certain obscure conditions arising in summer diarrhœa. There are cases of cholera infantum in which violent symptoms are followed by speedy death, and yet no appearances adequate to explain the result are revealed by the autopsy. There are also cases of diarrhœa, some acute, others subacute, which a few hours before death show, with the condition called hydrencephaloid, a rise of temperature. The nervous symptoms may be referred to exhaustion. It is difficult, however, to explain the increase of temperature by either exhaustion or a new inflammatory process begun in those last few hours of life. It seems more reasonable to believe that, both in this case and the former, a septicæmia has been induced by the products of putrefaction, either absorbed from the digestive canal, or generated in the exhausted tissues of the body.

It is easily remarked that in no case of summer diarrhœa do the symptoms correspond completely with those following the administration of a given ptomaïne to an animal. Of this, an explanation is offered by the fact that a single ptomaïne could hardly exist alone in the digestive canal, since both the albumenoids and organisms present are various. Moreover, different ptomaïnes, though they may have similar, may possess antagonistic powers so that the effect of any one may be modified or even neutralized. It is, therefore, impossible to predict with exactness from experiments outside the human body, what the action of the alkaloids of putrefaction would be when formed within the body.

Many of the expedients which have been found useful in the treatment of summer diarrhœa possess some element unfavorable to the growth of micro-organisms.

The removal of a child from the city to the country or seashore is, in high degree, an antiseptic measure. Investigation of the bacterial contents of the air and earth show that organisms diminish in number as we rise above the surface of the earth, as we penetrate beneath it, and as we go out upon the sea. They are absent in the high Alps, absent or very scarce in the lower strata of the soil, and absent, so far as investigation has gone, in the sea air a thousand miles from land. In the Rue de Rivoli, on the contrary, in the centre of Paris, there are ten times as many microbes in the air, as at the fortifications outside the city; and at Montsouris observatory the north winds blowing over Paris bring many more bacteria than the south winds from the country. The most impure come from the hills of Villette and Belleville, populous quarters, in which also are cemeteries and slaughter-houses. In other words, where there is decomposing organic material, there are bacteria, and the greater the amount of the one, the larger the number of the other. What is true of air is in a higher degree true of water. Condensed aqueous vapor has been found to contain 900 bacteria to the litre, sewer-water from Clichy contains 80,000,000 to the litre. It is where human beings are crowded together in large numbers that the greatest consumption and excretion of organic matter takes place. It is here, therefore, that the widest necessity exists for those retrograde changes which it is the

peculiar province of fermentative organisms to effect. We are justified, therefore, in looking upon filth and sewage as the grand culture medium of fermentative organisms, the special soil in which flourishes the most formidable cause of summer diarrhœa. Removal from this contaminated environment would, therefore, be demanded by theory, and is approved by practice.

It can readily be seen, however, that the advantage which extra-urban residence naturally possesses can be nullified for any particular place by unhygienic local conditions. The insufficient drainage of a country town, the cesspool under the window of an isolated farmhouse, create the same danger which is to be encountered in the midst of a dense population. It is in all cases the proximity of decomposing organic material which is to be avoided.

The transference of a child from the bottle to the breast is an antiseptic measure. Milk, as it comes from the breast, is free from organisms, and human milk, even when allowed to stand exposed to the air, is said by Baginsky to resist fermentation a number of hours longer than cow's milk.

The heating or boiling of milk is an antiseptic procedure. The ancients used to quench flints in milk to render it more suitable for diarrhœal patients. Household observation has taught that "boiled milk keeps." The more exact studies of the laboratory have shown that micro-organisms can be killed by sufficient boiling, and that a fluid thus sterilized will remain unchanged until bacteria are again admitted. To employ completely sterilized milk for infant feeding is hardly compatible with the conditions of a nursery. An approach to this can, however, be effected by boiling milk in the same bottle from which it is afterward to be nursed. The bottle should be stoppered with cotton before boiling, and the stopper removed only when the milk is required for use. Milk, thus prepared, will keep sweet in a warm room for twenty-four hours, while unboiled milk standing in a pitcher by its side, will, in that time, have become sour and coagulated. To thus defer for a few hours the capability of milk to ferment, may be all that is necessary in the treatment of some of the minor cases of vomiting and diarrhœa in infants.

All means for emptying the digestive tract either by withholding food or by giving evacuants have an antiseptic value. On the one hand, micro-organisms are deprived of the material necessary for their growth; on the other hand, both organisms and their products are swept away. Evacuants have from an early period been held in favor in the treatment of diarrhœa. The Greek physicians prescribed mild laxatives to remove the "peccant humors," and Piso, who introduced the use of ipecac for its emetic and cathartic effect in the fluxes, described it, in his extravagant language, as "a sacred anchor and most exquisite gift of nature."

Various drugs have been used to produce disinfection of the digestive tract. To determine the comparative efficiency of these in the treatment of summer diarrhœa does not at present seem possible. It would appear that the value of a particular drug does not depend upon the precise grade of its antiseptic power. A milder antiseptic may, all things considered, be more valuable than a stronger. Nor does it seem probable that complete antisepsis of the digestive tract by drugs is as a rule necessary. The fact that the ordinary processes of digestion are conducted in the presence of bacteria, leads us to think that nature in health exerts a control over micro-organisms. It is probable that she can do something for herself in most cases of disease. The part of medicine, therefore, is so to modify unfavorable conditions as to restore to nature the control which she has lost.

The main positions advocated in this study of summer diarrhœa are:

(1) That micro-organisms bear an important causal relation to a large proportion of cases of summer diarrhœa.

(2) That antisepsis of the digestive tract is an essential element in the treatment of the disease.

(3) That antisepsis should include not only the use of drugs, but the establishment of all conditions known to be unfavorable to the life or activity of micro-organisms.

(4) That, in order to a more scientific use of antisepsis, we require more adequate information as to what organisms are concerned in the production of fermentation, their life history, and the condition favorable and unfavorable to their growth.

REMARKS ABOUT THE DRUM MEMBRANE, WITH CASES.[1]

BY E. D. SPEAR, M.D., OF BOSTON.

What I shall talk about to-night will seem of trifling importance to those in our profession who are bearing the heat and burden of the day and to whom the work of a specialist oftentimes seems to savor of arrogance as he attempts to show his brother practitioner the vast importance which particular organs in which *he* is interested hold in the economy of life.

I therefore begin by presuming that I shall be pardoned for bringing little matters to the attention of great observers.

As a reason for presenting so worn a theme as that of the drum membrane of the ear, I would say that I wish to refer to popular impressions regarding it as a factor in the production of hearing. Every one knows the belief respecting it in the minds of the many. If once injured, broken or lost it is believed that the sense of audition departs. This fallacy is held in the minds of the very intelligent.

Of late writers begin to claim that, on the contrary, this membrane merely serves a physiological purpose of protecting the more deeply lying parts of the auditory apparatus, and consider its presence unessential to hearing! The arguments adduced to prove its functions, or rather to deny its usefulness, are supported by observations made upon that organ in its abnormal condition.

A study of the wonderfully delicate adjustments of which the normal membrane is capable, as shown so carefully by one in our midst, should lead us to respect its presence and urge us on all proper occasions to remove causes tending to prevent its full action.

I proceed to show, by a few cases, that inference as to functions drawn from observations made upon such an organ as the ear in a diseased state may with good reason be acted upon in pathological cases similarly affected, though I believe that the practice of following a routine plan in any class of cases should be avoided as likely to prevent the discovery of new methods.

[1] Read at the meeting of the Boston Society for Medical Observation, March 7, 1887.

In our discussion we may formulate these two inquiries.

First. Given a case of partially destroyed membrana, shall we try to close up the perforation?

Second. A case of intact but greatly thickened membrana shall we *try* to establish a permanent opening?

Two classes of cases claim our notice. Injuries to the drum membrane, of an acute character (perforations or ruptures).

Old perforations; the result of disease.

In the traumatic cases we find: previously unaffected or normal and previously diseased and therefore abnormal membranes.

Representing the first subdivision of traumatic affections is the not uncommon case of, A. B., adult, young woman. Was playfully cuffed upon ear by open hand of a friend who had approached her unawares. Felt concussion of air, heard short sharp report followed by a ringing sound. Felt dizzy; afterwards aware of slight deafness. Membrane is found healthy but with small linear rupture in posterior superior quadrant covered over with a fresh coagulum. Treatment, a placebo. On third day firm union of wound, noise gone and hearing nearly normal. Later perfect hearing.

The comparative rarity of similar cases among the large number of persons who receive blows upon the ear, is accounted for by absence of the favoring circumstances, not because of the infrequence of such accidents. In most cases where the blow falls over the meatus and one would expect a ruptured membrane "forewarned is ably forearmed" for the expectant musculus tensor and stapedius for that matter prepare the ear for the shock. Experience with simple cases like the above allows one to take slight notice of them and to trust entirely to the natural reparative processes so very active in healthy membranæ. With such cases the answer to question one is easy.

The following cases, however, show the need of remembering that a ruptured membrane may also include injuries to the deeper structures of the ear. I am here reminded, in passing, that it used to be considered almost positive evidence of the very serious injury, fracture at base of skull, if bloody fluid was seen issuing from an auditory meatus.

A young man, attached to a light artillery company, had been engaged one afternoon in firing salutes. He had escaped injury to his ears by taking the precaution observed by the gunners, who present their faces to the concussion wave and by so doing divide it and lessen the shock. If the line of direction is properly judged and the correct position maintained, a blow, which by striking directly might rupture any membrane, is thus parried and normal ears escape injury. As the last round, the twenty-seventh as it happened, was fired, this gunner felt a shock in his left ear, which became deprived of hearing. When examined the next morning a small linear rupture was found very near the centre of a greatly depressed and opaque membrana. Absolute suspension of hearing was proven by appropriate tests.

Patient had for four months been conscious of having slight tinnitus, "a buzzing," in left ear. This had greatly increased. No vertigo complained of. It was decided that the shocks had impacted the foot-plate of the stapes in the oval window, and by compression had abolished the function of the labyrinth. The immediate restoration of fair hearing by the use of the Eustachian catheter confirmed this diagnosis. A watch was heard at 30 centimeters. In this case there was evidence of a more or less chronic catarrh of the naso-pharynx and tympanum, and an explanation for so serious an injury to one ear without disturbance of the other, was easily found. The diseased organ, perhaps because of the infiltration of its protecting muscles, though more likely simply because of the disturbance of its mechanism could not withstand the shock.

This remark has an important bearing upon those cases whose type is found among those exposed to loud noises, and in whom the prominent symptom is a high grade of deafness. A few aurists have called this form "boiler-maker's deafness" which would imply a disease peculiar to ears exposed to a constant succession of loud shocks. My observations upon all such cases have shown an accompanying long-standing disease of the tympanum, usually chronic catarrh, and the condition of the sound-conducting apparatus here found explained why the labyrinth should suffer. If loud noises cause deafness then one ought always to find those employed at noisy trades deaf.

I once asked the manager of a stamp-mill if his workmen were not all deaf. He replied "no! I have twenty-one crushing machines in one room and the men who work nearest the noisest of them can hear perfectly. Only those workmen who have catarrh are affected by the noise."

Another case, illustrating the weakness of diseased membranes, was that of C, a young man who applied for relief of deafness "of a week's duration," which he claimed followed immediately the receipt of a blow from the open hand of a companion with whom he was having a friendly bout. Here was found a large, irregularly oval opening through a very delicate cicatricial membrana. A look at his other ear revealed a membrane likewise delicate, though bearing large patches of calcareous matter. In this case the inference, therefore, was that the suddenly occurring deafness was to be explained on the probability that at the time the injury was received the man's hearing power was far below the average, the result of a former disease of both tympana and that the slight additional loss was noticed because of this fact.

The contrast in the very large perforation without coagula to that of the small linear rupture of a normal membrane clearly showed how delicate had been the reproduced membrane which is always composed of two layers only, a mucous and dermoid, lacking the fibrous middle layer.

Treatment of this case by paper or cotton discs would have been out of the question. The certainty of destroying more tissue by pressure as well as the impossibility of re-establishing a reparative process in the edges of such a structure prevented the trial.

Of ten successive cases of traumatic rupture noted within a short period, seven gave evidence of previous disease in the ear, one of the remaining cases was that of double rupture with history of free hæmorrhage and consequent purulent discharge from exposure to shock of a dynamite explosion.

The question of closing old perforations can be decided by reference to the special case under consideration. A choice of methods, too, remains.

A small opening in an otherwise healthy membrane

should be closed always, provided if the artificial membrane improves the hearing; because, without this, the risks to be incurred from its use would more than counterbalance its possible good effects. I found, in a boy of fourteen, total destruction of the membrane with adhesions about the stapes, in one ear, no hearing. In the other, a large oval perforation at the centre below the malleus. A paper disc over this latter opening so improved the hearing that treatment was decided upon. The paper was applied at intervals sometimes completely closing in the opening, at other times only partially covering it until irritation was caused, when it was removed and the ear left to recover. In one instance, after having been left on four days, congestion of the whole tympanic mucosa followed, and serum filled the tympanum. This attack, unattended with pain, indeed, unnoticed by the patient, with other slight relapses brought about absorption of material previously thrown out, possibly around the articulations of the ossicles and by allowing freer movements, improved the hearing to a point reached by the ear with its membrane as at first restored to its entirety. Future treatment of the case, it is hoped, will bring further improvement.

In the case which follows, a small perforation in a diseased (partially calcified) membrane is allowed to remain open because the hearing power is apparently nearly up to the normal standard and when closed by a paper patch, this is perceptibly diminished.

Observations upon the growth of the outer layer of the normal drum membrane having shown [2] that this tissue is constantly replaced by the reproduction of cells as on the skin, but that the tendency of their growth is outwards, starting from points on the membrane at or near its centre, towards the periphery, and posteriorly along the wall of the auditory canal.

This was clearly shown by the application of delicate paper discs to the surface of the membrane, which in course of time, were found to have changed their position with relation to fixed points. The rapidity of this movement and its general direction being determined by their relative proximity to the central part of the membrane and by their position in front of or behind the mamebrium mallei. The discs placed posteriorly moved most rapidly and in the straightest lines, whilst those anteriorly were obliged to take a longer route and were even retarded by the slower growth of the epithelium in this situation. It was observed further that there was a spiral line taken by a disc placed above and in front of the tip of the malleus, by which the posterior periphery of the membrane was reached instead of the anterior.

Experience with paper patches upon the membrane, over perforations, also shows this tendency to displacement so constantly, that in practice it is necessary to readjust the "artificial membrane" periodically, to insure its therapeutic action: permanent closure of the perforation and improvement of the hearing.

By way of further illustrating this subject and with a view of giving additional evidence upon it, the citation of this case is presented.

L. F., adult, placed herself under my care for the relief of deafness accompanied with tinnitus. For six months patient had noticed a discharge from the right ear which within two months previous to her first visit had stopped, when the left ear began to take on the same condition.

Her ability to hear ordinary conversation was much impaired, and the watch was heard only after contact with the auricle. Upon inspection the right tympanum was found full of fluid without an opening through the membrane. Upon the left side otitis media with sero-purulent discharge through a small perforation in front of and just below the tip of the malleus.

The treatment of the right ear may form the subject of another paper. That of the left resulted in great improvement in hearing and cessation of the discharge, but a perforation remained as above without any active process going on around it. The idea of bringing about the closure of this opening suggested itself, and a bit of "sized foreign note" was accordingly placed in position over it. In attempting to accurately adjust this, my probe unluckily pressed upon one of its edges and caused it to pass into the perforation, where it was only distinguishable by a line of light marking its vertical position. Efforts made with forceps and syringe, failed to replace it and only resulted in pushing it out of sight altogether. The paper was of necessity allowed to remain, and conjectures as to its probable position and future adventures were for many weeks indulged in. As no inconvenience was experienced by the patient then, nor has been since, other than sensations of fulness or heaviness (which were always found to be due to temporary obstruction in the eustachian tube and removed by the air-douche) no interference was necessary. After the lapse of two months time the paper disc was again visible upon the membrane above and close to the perforation. Since this reappearance its progress has been carefully watched and these observations noted. The disc has been covered by epithelium; the line of its advancement has been upwards and a little forwards, and at this writing, six months from the date of its first application, the extent of its journey has been reached, and it has left the membrane near its periphery, just under the anterior fold by a process of detachment brought about by the pressure of underlying layers of epithelium as they have accumulated from time to time. The foreign body was at first upon the inner surface of the membrane to the front of the perforation. It was very slowly brought through the perforation and took up a line of travel anteriorly and upwards. In was observed in Blake's experiments that a disc of paper placed upon a membrane at a spot corresponding to the perforation, in one case travelled downwards and posteriorly. Why did not this also? Plainly because the disc became placed upon the upper edge of the opening in the membrane where the direction of growth was upwards out of reach of those cells moving in the opposite direction (on the further side of the perforation). Further, Blake speaks of a "period of hesitation," at this part of the membrane. Undoubtedly, the dividing line between the two extremes of motion lies just at the tip of the malleus, as these observations would show, and the cause of the hesitation is explained by his having put his disc very near this dividing line where antagonizing forces may be supposed to have been acting. Another interesting question is, why was so much time consumed before the periphery of the membrane was reached? For the reason that its progress was retarded by friction against the edges of the opening, as well as by the

[2] American Journal of Otology, Oct., 1882. "The progressive growth of the dermoid layer of the normal membrana tympani. C. J. Blake, M.D."

fact that from this very retardation the epidermal coating had grown over the paper and could therefore act upon it only against the frictional resistance of its under surface. Again, because it moved slowly and was therefore being lifted off the membrane, it steadily got further and further from where the most active growth was going on, and received in consequence less and less of its momentum. The practical bearing which these facts seemed to have, suggested the idea that an artificial opening in a membrane intended to bring improvement in hearing by allowing sound waves to fall directly upon the stapes, should be made in front of the umbo of the malleus and would remain open for a longer period of time than those made in the usual positions. All my attempts to carry this theory into practice failed, because the nearness of the promontorium to the membrane prevented the knife from cutting. I have on this account considered the feasibility of using an instrument constructed like the ordinary pneumatic speculum but having a paracentesis knife so connected with it as to permit of a cut being made in the membrane while it is drawn outwards.

This leads to the consideration of our second inquiry; should attempts be made to establish an opening through the membrana?

Much has been written and said upon this subject since the beginning of this century and, notwithstanding the many failures, every aurist desires to find the way. Some have been very heroic in their experiments, and have in their eagerness to succeed greatly overdone the matter.

My slight experience has taught the futility of all such designs, and though some few cases are benefited by the trials, the improvement is to be attributed to the absorption of the products of former inflammations occasioned by the irritation, rather than to the immediate results of the operation itself.

REPORT ON OBSTETRICS.

BY CHARLES M. GREEN, M.D.

EXCESSIVE VOMITING OF PREGNANCY.

AT a meeting of the Gynæcological Society of Dresden, November 4, 1886, CHAZAN [1] reported two interesting cases of this affection. In the first case the pregnant uterus was found to be retroflexed: after correction of the displacement and the introduction of a suitable retaining pessary, vomiting entirely ceased and the pregnancy continued without further disturbance. In the second case, that of a woman pregnant for the fourth time, who suffered from continual vomiting from the third month, no anomaly could be found in the pelvic organs by repeated examinations: it was learned, however, that the woman was inconsolable at the idea of being pregnant and wished to be rid of the product of conception. Vomiting continued many days several times an hour; but if the attention of the patient was entirely diverted by conversation, vomiting ceased for an hour or two and then returned. After the patient had been treated with various drugs for some time without effect, she was again carefully examined under anæsthesia. After this the vomiting suddenly ceased and did not return; apparently, as was learned, because the patient believed that while under the influence of the anæsthetic the fœtus had been removed. On the strength of this case, Chazan expressed the opinion that perhaps in most cases hyperemesis gravidarum was attributable to some affection of the nervous system or of the mind, and not to a genital abnormality, as some authors believe: and in support of his opinion he mentioned the frequent occurrence of excessive vomiting without coincident affection of the genital organs; the comparative rarity of hyperemesis in spite of frequent genital anomalies in pregnant women; the more frequent occurrence of the affection in the better classes; the sudden invasion after some psychical disturbance, and the immediate cessation after mental diversion.

In the discussion which followed Chazan's communication, but little support was accorded to its sweeping generalization, although neurotic and psychic causes were acknowledged to be factors in some cases. LEOPOLD spoke very clearly, and divided the cases of excessive vomiting into three classes:

(1) Those in which there is a displacement of the uterus, especially retroflexion. In these cases the vomiting depends on the excessive stretching of nerves and of the uterine muscle.

(2) Those cases in which only affections of the stomach appear to give rise to excessive vomiting.

(3) The cases in persons of neurotic temperament, wherein no anatomical changes are demonstrable.

LEOPOLD says truly that in each case the cause of the vomiting must be carefully sought for, and that sometimes more than one cause may be operative in a given case. He speaks highly of Credé's prescription, — the administration every five minutes of teaspoonful doses of nourishment, preferably iced milk, the patient lying absolutely quiet and taking the nourishment through a glass tube.

Cocaine is highly spoken of by many observers. BOIS [2] relates the case of a young woman in her third pregnancy, who suffered with gastric disturbances to such a degree that she could take no nourishment whatever. Cocaine, opium, and other drugs, given internally, had no remedial effect. The condition was so serious that abortion was about to be performed when Bois determined to try the effect of local treatment of the uterus. He had made a salve after Beaumetz's formula — cocaine 1.0, vaseline 50.0 — and with this he smeared a tampon and placed it against the cervix, leaving it *in situ* for an hour or two: this was repeated twice a day for three weeks. Gradually the patient improved, took and digested nourishment, and was finally cured.

A NEW EXPLANATION OF RENAL TROUBLES, ECLAMPSIA, AND OTHER PATHOLOGICAL PHENOMENA OF PREGNANCY AND LABOR.

A. F. A. KING (Washington) has written a long paper [3] on this subject and advanced a new theory of the renal affections of pregnancy. The paper does not admit of sufficient condensation to warrant its reproduction in this report by abstract; but all who are interested in the subject will do well to read the article in detail. Briefly stated, the author's theory is that "disturb ances in the renal circulation and renal functions are produced chiefly by pressure of the gravid uterus upon the abdominal aorta or its branches, or upon the vena cava or its branches, or upon both or all of these, in

[1] Centralblatt für Gynäkologie, 1887, No. 2.

[2] Bull. Génér. de Thérapeutique, 1886, No. 11. Centralbl. für Gynäk., 1886, No. 51.

[3] American Journal of Obstetrics, 1887, Nos. 3 and 4.

consequence of the child and womb not maintaining during pregnancy their normal lateral obliquity above the pelvic brim." The author submits that the normal position of the uterus before the advent of labor is the lateral oblique position, and that "the normal presentation and position of the fœtus in utero during pregnancy, before labor begins, is the dorso-anterior position of an oblique presentation." He also declares that the normal position of child and womb is "intrinsically the same in primiparæ as in multiparæ," and that it is abnormal for the fœtal head in primiparæ to enter the pelvis before the advent of labor. Dr. King then proceeds to show that "when the normal obliquity of womb and child is maintained during pregnancy, there will be no injurious compression upon any bloodvessels."

The author's theory is ingenious and is modestly presented: he admits that his views are theoretical and only hopes that they may stimulate research which will verify or disprove them. While many will not now accept his premises, those who have large clinical facilities will do well to examine them with care and give them that clinical test which alone will determine their value.

HÆMATOMA OF THE EXTERNAL GENITALS AND VAGINA.

LWOFF [4] has written on this subject, and reported five cases observed by him, which formed during or soon after labor. Regarding the ætiology of these blood-tumors, he concludes that neither the age, the number of the pregnancy, nor the length of labor are in themselves alone causes of the tumor formation; but rather varicose dilatations of the veins in the external genitals, congenital hæmophilia, and congenital anatomo-histological changes in the vessel-walls whereby the latter become more friable: changes in the structure and nourishment of the vessel-walls during labor are also predisposing factors.

The results of these tumors Lwoff groups under five heads:

(1) Death from hæmorrhage with or without opening of the hæmatoma;

(2) Death from septic infection through purulent degeneration of the tumor-contents, chiefly after the opening of the sac;

(3) Opening of the tumor and healing;

(4) Opening with subsequent formation of fistulous communications from the vagina to the perinæum or into the rectum, and protracted healing;

(5) Absorption of effusion without opening.

In the way of prophylactic treatment little can be done, except to hasten the second stage of labor in cases complicated with genital varices and especially in those affected with the hæmorrhagic diathesis. During the formation of the tumor one can perhaps restrict its increase by pressure and cold in the form of an ice-bag or by means of a colpeurynter filled with iced-water. One should avoid opening the tumor as long as possible: if, however, the sac must be opened during labor or soon after, or if it bursts spontaneously, a tampon must be carefully packed into the cavity, both for the purpose of stopping hæmorrhage by pressure and to prevent a refilling of the sac. The author discards the sesquichloride of iron, since on account of the formation of loose, fragile clots the danger of a secondary hæmorrhage is very great, and prefers to tampon the cavity with cotton wads soaked in iodoform and glycerine. If the effused blood breaks down, the cavity should be washed out several times a day with a 1 in 2,000 solution of corrosive sublimate and then dusted with iodoform. If for any reason the sac must be laid open, the result is the more favorable the later incision is performed. [This can hardly be true when there is evidence of beginning disintegration of the clot. REP.]

[4] Zeitschr. für Geburtsh. u. Gynäk., xiii, 1. Centralbl. für Gynäk., 1887, No. 18.

PROGRESS IN CÆSAREAN SECTION.

Reports from different sources of the continued and increasing success of the new Cæsarean operations are very gratifying to those who confidently expect these operations to ultimately displace in most instances the performance of craniotomy.

In the *Archiv für Gynäkologie*, xxviii, 1, are reports of twelve successful cases by different operators.[5] WEISS (Schwerin) performed the Porro operation in a iv-gravida with a simple flat pelvis, whose previous labors had been difficult and instrumental (once craniotomy), and followed by a protracted and febrile puerperium. In the fourth labor the vagina was found to be so contracted with cicatrices that in spite of strong pains the cicatricial ring would admit only the index finger and there was imminent danger of rupture of the uterus. Weiss chose the Porro operation in preference to Sänger's, because the patient had already had a chill and was feverish, and because in view of the vaginal contraction he thought it wise to prevent the recurrence of pregnancy. The child was saved and the patient left her bed on the twenty-first day.

LEOPOLD (Dresden) reports five cases performed after Sänger's method and three after Porro's, in all of which mother and child were saved. The Porro operation was elected in two cases on account of cancer of the cervix, and once because of extreme pelvic contraction and an inflammatory condition of the uterus due to long labor. The Porro cases had a normal convalescence, but required from four to six weeks after the separation of the stump for the funnel-shaped depression in the abdomen to heal completely; whereas, in the Sänger cases, convalescence was more rapid, and patients left their beds after fourteen days.

CREDÉ (Leipsic) reports two cases after Sänger's method, in both instances on account of a flat, rachitic pelvis. Both mothers convalesced normally, and both children were saved. Credé resected the muscular tissue in both cases, folded in the peritoneal coat and closed the incision with both deep and superficial sutures,— the former of silver, the latter of silk.

SKUTSCH (Jena), who also reports a successful case, says that if there is no especial need of haste it is better to delay the operation until the pains have dilated the cervix, in order to ensure a free exit for the lochia. If, however, the operation is necessarily performed before the cervix is dilated, a drainage-tube should be passed through the os and lochial retention thus prevented.

In the same *Archiv*, xxx, 2, the latest issue, Credé reports his seventh successful Sänger operation, and gives a table furnished him by Sänger embracing all the reported cases after this method from May 25, 1882, to April 15, 1887, fifty in number. Of these fifty cases 72 per cent. of the mothers and 92 per cent. of the children were saved. Thirty-four of the cases

[5] Centralbl. für Gynäkol., 1887, No. 20.

cases were German, and of these 88 per cent. of the mothers recovered and 94 per cent. of the children were delivered alive. The fourteen Dresden cases resulted in thirteen maternal recoveries and fourteen living children. In the seven Leipsic cases, the mothers and children were all saved.

It will be seen, therefore, that the mortality of the improved Cæsarean section, as an elective operation in the hands of experienced operators, is lower than that of craniotomy; and it is not an unreasonable expectation that with the increasing consideration for fœtal life, the modern conservative methods will in all enlightened communities displace, in most instances, the destructive operations.

Clinical Memorandum.

TYPHOID FEVER WITH UNUSUAL FEATURES.[1]

BY F. E. PORTER, M.D., AUBURNDALE, MASS.

IN August of 1885, I was called to a store to see a man who said he had taken cold during the rain of the week previous; had headache, back and legs ached off and on ever since; nose bled the morning before, face anxious and pale, eyes seemed prominent and larger than usual. Patient thought he had indigestion, and had for a few weeks back resorted to an apothecary for plain soda, which seemed to him to help him. Some rolling and tumbling in bowels, though no diarrhœa, tympanites or sensitiveness to deep pressure in iliac fossæ. Surface dry, pulse 116, temperature 101°, respiration 32.

Advised him to at once go home, take warm bath, apply warm pack to abdomen, and drink, in the course of a couple of hours, a tumbler of water containing

℞ Liq. Ammon. Acet. . . . . ʒi.
Syr. Limonis . . . . . ʒi. M.

and if sleepless and restless at bed hour take gr. vi Dovers' powder. The next morning he told me he slept well, sweat freely, and felt better. Pulse 94, temperature 103°. At 5 P. M., pulse 100, temperature 104.4°; advised spongings with soda water, and Dover's powders gr. iv. at bed hour, if necessary. On second morning his pulse was 100, temperature 102.8°, respiration 24, bowels had not moved, though often threatened to; tongue brownish coat on sides; tip clean; said he "dreamed last night, and sweat in his sleep." 5.30 P.M., pulse 88, temperature 104.3°, nervous and restless, bowels uneasy.

No discernible change took place until the fifth morning. Pulse was then 92, temperature 102.6°; his friends said he was wandering during the night, and often required a strong man to keep him in bed. Up to this time he had been fed with plain, liquid, nutritious, and in part concentrated nourishment. At 2 P.M. was suddenly called, the patient having thrown himself in delirium about the bed, and could not be held. While there noticed his heart was fast failing, weakened action, frequent stops, irregular, surface growing cold, capillary circulation poor, nails blue, mouth wide open, and gasping respiration. Heaters, hot packs, hot coffee, hot water and brandy, and constant attention alone succeeded in whipping up the heart to renewed action and work.

7 P.M. Violent, and many men had to hold him; eyes bright and glistening, pupils dilated, saying nothing, but eyeing, hearing, and knowing all, refusing everything. Pulse 140, temperature 102°, respiration 36; strength and power unnaturally increased, throwing men away from him in different directions. Consultation was sought with several physicians, and late in evening Dr. Thayer arrived. While rehearsing the condition in adjoining room, was suddenly called, to find patient wrestling with five men. Codeia, in grain doses, an hour apart was advised. At 2 A.M., after about five hours of extreme exertion, which of itself would inevitably wear out the patient in short time, and being unable to administer ether, which in many directions seemed preferable, I gave one-half grain of morphia subcutaneously; then waiting forty-five minutes for results without finding any, three-eighths more was injected. In fifteen to twenty minutes his exertions began to cease, and a controversial tack set in. At 4.30 A.M., he was asleep, which continued until 9.30 o'clock on the sixth morning. Pulse, temperature, respiration, state of surface, pupils, etc., corresponded to action of morphia in the system. During sleep patient sweat like rain, as indeed he had for past three nights. When he awoke, his mind was perfectly clear, called for milk, toast water, clear water, beef-tea; bowels moved and bladder emptied voluntarily, and the patient commenced to advise about pulling together in pulling him through, though soon after declared to those about him, he could not get well, "was all broke up," declared he must die, at the farthest in a few hours. Large discolored spots were now discovered about his hands, arms, thighs, and knees, one or two about the trunk, with here and there an abrasion, notably over the joints. Petechiac, usually found about the chest and abdomen, were not seen. Another failing of heart's action set in with its attendant symptoms, which were promptly met with hypodermics of brandy, etc.

At 2 P.M., he was fast becoming delirious, and seemed maniacal. Had he the strength of the preceding twenty-four hours, I have no doubt the same fight would have to be repeated. A hypodermic injection of one-quarter grain of morphia sulphate stopped the muscular exertions, though the time was occupied with much talking and occasional sleep. At nearly midnight I left him, with pulse 145, temperature 100°, respiration 45, with directions to have brom. potass., sodium, et ammonium, and chloral hydrate aa. gr. x, in a suitable menstruum given per rectum, should raving again set in. Having a professional man nurse on hand at that time I could rely on the execution of orders. He continued to fail during the night, and at 6 A.M., on the seventh morning of attendance, was called to find the pulse had been failing at the wrist for an hour, and now gone, heart's action 125, respiration sighing, and patient moribund. At seven o'clock all was over.

At 9.30 o'clock the undertaker found me and said my patient was fast growing unrecognizable, parts soft and dusky, abdomen swelling, ecchymotic spots, the size of a dollar to size of hand, appearing on back and legs. I saw him at ten o'clock and again at 2 P.M., when he was beyond recognition.

Extremities were fast amputating themselves,[2] and

[1] Read before the Middlesex South District Medical Society.

[2] In confirmation of the above, the undertaker tells me he was obliged to lift the body on a sheet in putting it into a hermetically sealed casket. At the funeral, while carrying the remains into and out of the church, the pall-bearers said that different ends of the coffin were heaviest, according as it tipped during conveyance, and sounds were heard as of fluid in motion while the casket was in their possession.

I told the friends that he died at the point of saturation with the poison; a gross statement to be sure, but one I thought more readily acceptable to them than any more refined elaboration of the condition.

Two or three reflections occur to me as I review this case. One is, the falling of the temperature when the cerebral irritation became pronounced. In this connection I will quote Liebermeister. "A condition of special interest, which sometimes develops itself at the height of the disease has been called by me, irritation of the brain with depression of temperature. Sometimes, about the middle of the second week, at the height of the disease, in a patient who has had continually high temperature and the corresponding functional disturbances of the brain, the brain symptoms suddenly assume an anomalous character; they become such as to suggest meningitis; or well-marked mental disturbances appear, either partaking of the character of melancholia or with maniacal tendencies, the pupils at the same time losing their sensitiveness to light.

"The striking feature of this condition, however, is that the temperature of the body, which has thus far run its ordinary course, and has for the past few days remained at about 104° F., or over, suddenly falls, when the evidences of irritation of the brain appear, and, during the continuance of the brain symptoms, fluctuates in an irregular manner between 98.5° and 100.5° F., or even between 97° and 102°.

"In favorable cases the brain trouble disappears in a few days, or it may not be until a few weeks have elapsed, and then the temperature rises again to a point corresponding to the stage of the disease, and the regular order of things is resumed. . . . It is a condition most apt to supervene in grave cases, and the irritation of the brain appears to result from the influence of a high temperature on that organ. The lowering of temperature which exists during the continuance of irritation of the brain may, perhaps, be most easily explained on the supposition that the controlling nerve centre, which presides over the regulation of temperature, is itself involved in this irritation."[3]

Another reflection is, the early appearance and desperateness of the nervous symptoms. Murchison says, "As a rule, it does not commence until the middle or end of the second week, and it often does not appear until the end of the third week. . . . Still there are exceptional cases where the delirium occurs earlier. Louis mentions two instances where the patients were delirious during the first night. Jenner observed delirium, occasionally one of the earliest symptoms. Bristowe records a case where maniacal deliriums occurred on the second day." In three cases in which Murchison had been consulted, "the illness had at first been regarded as acute mania, and in two of these cases removal of the patient to a lunatic asylum had been contemplated."[4] Flint says: "Exceptionally it is manifested in the first week, and even when the patient first takes to bed. . . . So far as my observations go, persisting, active or violent delirium, requiring restraint, is an extremely unfavorable symptom."[5]

Lastly, the rapid decomposition after death. In this disease I do not remember ever to have seen such changes recorded. It must imply an unusual amount of the poison received. It is unusual also, to see patients die thus early in the typhoid run. Emaciation is not pronounced, the fluids and fat are not yet reduced. Must it not mean, that the materies morbi is the main factor in this instance; while the fever, an attendant upon the disease, has not as yet more than commenced to work its own destructive processes? I have thought that the excessive muscular exertions, also, were a factor in the rapid destruction. The amount of nerve-power necessary to execute such movements, for so many hours without sleep; the amount of tissue waste of all sorts, with a poisoned nutrition, the blood, hastening to supply the loss of itself, would contribute *de*generation for *re*generation. One writer attributes the early appearance of delirium, not to any degree of fever that the patient as yet has had, but to the typhoid poison *per se*. And, I see nothing in the way of supposing, that a material, introduced into the system in amounts sufficient to so soon beget cerebral delusions, fancies, stimulating and perverting its energies to maniacal proportions, can, when driven throughout the economy at a heart gait of one hundred and forty and upwards, render every kind of structure, save the fibrous and bony, sufficiently pathological as, not only to cause early death, but, in warm weather, speedy decomposition beyond any recognition of the individual.

[3] Ziemssen, Vol. I, p. 178.
[4] Murchison, Cont. Fevers, Second Edition, p. 535.
[5] Flint, Fifth Edition, p. 953.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES P. STRONG, M.D., SECRETARY.

MARCH 7, 1887, DR. MCCOLLOM in the chair.

DR. E. D. SPEAR presented a paper,

REMARKS UPON THE DRUM-MEMBRANES, WITH CASES.[1]

DR. C. J. BLAKE spoke very favorably of the use of paper patches in the treatment of perforations, alluding to a case of his own, where the patch disappeared through the hole, subsequently reappearing in the secretion. He favored the use of a long or oval patch.

DR. H. L. MORSE said that he had also passed a patch through a perforation, and in no way had he since known what became of it. At all events, it had produced no bad symptoms. He spoke, also, of the common fallacy of thinking that a perforation must necessarily induce deafness. In a case that he had had under treatment, where injury had been caused by the use of a fountain-syringe in removing plugs of cerumen, he had derived great advantage from the use of Politzer plugs, when other means of restoring the stapes to its normal position had failed.

DR. F. L. JACK reported some cases illustrative of the fair amount of hearing possible, despite large perforations.

DR. LELAND alluded to the employment, of the inside skin of the egg-shell, instead of paper, as having produced better results in his practice. In one case, it was worn without renewal for two months.

— It is said that a tooth immersed in a solution of the tincture of iron in eight parts of water, has its enamel entirely destroyed in one hour.

[1] See page 177 of this number of the Journal.

AMERICAN OPHTHALMOLOGICAL SOCIETY.[1]

TWENTY-THIRD ANNUAL MEETING.

CASE OF CONGENITAL ZONULA GRAYISH-WHITE OPACITY AROUND THE FOVEA,

by O. F. WADSWORTH, M.D., Boston.

The patient was a child eleven months of age. She was unable to sit or stand and could not hold anything in her hands. She appeared to take little notice of anything. Externally the eyes were normal. With the ophthalmoscope the disks did not seem to vary from the normal appearance. The macula was dark red and surrounded by a grayish-white opacity. The remainder of the fundus appeared to be normal. There appeared to be some light perception. Five months later there seemed to be no perception of light. The disk was sharply defined; the central vessel small. The mother had had four healthy children. The fifth, according to the history, had been sick in a similar way as the one under consideration. In all the reported cases some weakness of the general muscles was noted.

SEPARATION OF THE RETINA IN BOTH EYES WITH ALBUMINURIA OF PREGNANCY: REPLACEMENT,

by O. F. WADSWORTH, M.D., Boston.

The patient was a married woman, seven and one-half months pregnant. About the beginning of the eighth month œdema of the eyelid appeared. This was soon followed by indistinctness of vision. The urine was loaded with albumen and contained hyaline and granular casts. When seen by the speaker there was a general separation of the retina in the right eye. In the left eye there was also separation of the retina but not so distinct. After consultation, it was decided to induce premature labor. This was done and a living child was delivered. Before the completion of labor a convulsion occurred for which bleeding was resorted to. The patient convalesced and vision gradually returned. When last seen the disks were clearer. No separation could be made out in either eye.

DR. B. ALEXANDER RANDALL, of Philadelphia, read a paper describing

A CASE OF COLOBOMA OF THE OPTIC NERVE.

DR. F. BULLER, of Montreal, Canada, read a paper describing

A PECULIAR FORM OF GRANULAR CONJUNCTIVITIS ASSOCIATED WITH ICHTHYOSIS.

Two cases in which this combination was present were reported.

SECOND DAY. — AFTERNOON SESSION.

DR. W. S. DENNETT, of New York, exhibited an ophthalmoscope, in which the mirror was substituted by an electric light.

DR. LUCIEN HOWE, of Buffalo, presented a small pocket ophthalmoscope, with movable disc.

Dr. Howe also exhibited several photographs of the

INTERIOR OF THE HUMAN EYE.

DR. EDWARD JACKSON, of Philadelphia, presented a

SET OF SMALL TEST-LENSES, WITH A MODIFIED TRIAL FRAME.

The lenses are one inch in diameter, and the saving in weight is from one-third to three-fourths of the weight of those in common use. The lenses are plano-convex and concave, giving advantages over the double convex and concave by lessening spherical aberration, being easier to combine together, and making it possible to neutralize more perfectly spectacle-glasses, the strength of which it is desired to test. Several lenses had been added to the series usually placed in such sets, including stronger concave spherical and two astigmatic lenses, which had been found very convenient in testing for astigmatism. It was suggested that all intermediate lenses added to the metric series should be made to divide in half the present interval of one-fourth dioptry, making the interval one-eighth, and preserving the simplicity of the system.

Making the lenses smaller allows the trial frame to be made smaller, and very much lighter, so that the new frame, with the new lenses, weighs less than half the old frames, with lenses of equal strength. The temple of the frame is attached to the lower part of the lens-holder, allowing the lenses to be placed in the back groove of the holder, or withdrawn therefrom through the natural depression of the temple, instead of across the prominences of the brow or cheek. The set and frames are made by Queen & Co., of Philadelphia.

DR. S. D. RISLEY, of Philadelphia, described an

OPHTHALMOSCOPE WITH CYLINDRICAL LENS.

The ophthalmoscope is of the usual form, but behind the mirror there are two slides, containing the cylindrical glasses. In one slide the cylinders are + .50; 1.00; 1.50; 2.00; 2.50; in the other, + .25; .30; 4.00; 5.00; and 6.00. With these numbers, any desired combination can be made. The axes of the cylinders are rotated by rotating the instrument as a whole. The instrument is especially useful at the bedside for the purpose of correcting a high degree of astigmatism, when present.

A MODIFICATION OF THE REFRACTION OPHTHALMOSCOPE, WITH AN ATTACHMENT FOR USING CYLINDRICAL-LENS GLASSES,

by SWAN M. BURNETT, M.D., of Washington, D. C.

The modifications of the ophthalmoscope which were offered by the speaker consisted, first, in a clip behind the instrument, into which the cylinders in the test case can be inserted. The inclination of the axis is read on a graduation on the back of the mirror. The author had found this arrangement satisfactory in verifying the diagnosis of astigmatism made by other methods, and for examining the fundus of the astigmatic eye, free from its anomalous refraction. Secondly, two superposed discs containing lenses which singly, and by combination, give 47 numbers (22 plus and 25 minus lenses), with a regular interval of 0.5 D up to 10.5 plus and minus. Thirdly, a plane circular mirror, with a concave tilting mirror swung in front of it. The plane mirror does not interfere with the tilting mirror when in use, and when it is desired to use the plane mirror alone, the tilting mirror can be detached from its upper bearing, and swung downwards out of the way on its lower bearing. The instrument is very light, and it is made by Queen & Co., of Philadelphia, and its cost is about $20.00.

TRANSIENT MYOPIA FOLLOWING IRITIS,

by JOHN GREEN, M.D., of St. Louis.

[1] Concluded from page 161.

In 1867, the speaker had been the subject of iritis, involving both eyes. During convalescence, he noticed that the dimness of vision was not wholly due to lack of transparency of the media and that vision was improved by the use of concave glasses. He had occasionally observed in other patients with iritis, that as they recovered, vision was benefited by the use of concave glasses. Last April, the speaker had iritis affecting the left eye. He was then able to compare the one eye with the other and found that the myopia induced by the iritis amounted to 1.50 D. This gradually diminished until it disappeared at the end of four weeks, leaving the normal refraction. He had been unable to find accounts of myopia as a transient symptom, during convalescence from iritis.

DISCUSSION.

DR. O. F. WADSWORTH, of Boston. I can confirm Dr. Green's observations with reference to the occurrence of myopia during the convalescence from iritis. Patients who have had no myopia before, are benefited by concave glasses. This has gradually grown weaker. I have seen this repeatedly, but it does not occur in every case.

DR. G. C. HARLAN, of Philadelphia, reported an interesting case recently under his care.

A young man myopic two and one-half D. came under observation several months ago, with the history that he had spots coming before the right eye, and that there had been a sudden decrease of vision. I found a certain amount of choroidal irritation and a posterior polar opacity. This began as a six-armed cross with rectangular arms. These became more diffused during the following six weeks. During this time, there had occurred a marked opacity in the anterior portion of the lens, without traumatism and with only a moderate degree of choroid inflammation. There was no special increase in the myopia so far as the author was able to determine.

EXECUTIVE SESSION.

The report of the Committee on Congress of American Physicians and Surgeons was received, and the following resolution adopted:

Resolved, That the American Ophthalmological Society appoint a representative, and alternate, to the proposed executive committee of arrangements for the Congress of Special Societies, with the provision that in making the appointment this society does not commit itself to an approval of the present sketch in all its details.

Dr. William F. Norris, of Philadelphia, was elected representative to the executive committee of the Congress, and Dr. D. B. St. John Roosa, of New York, was elected alternate.

The nominating committee reported as follows:

Officers for ensuing year: President, Dr. William F. Norris, of Philadelphia; vice-president, Dr. Hasket Derby, of Boston; secretary and treasurer, Dr. O. F. Wadsworth, of Boston; corresponding secretary, Dr. J. S. Prout, of Brooklyn.

The following were elected to membership: Dr. George Cutter, of Brooklyn; Dr. D. C. Cocks, of New York; Dr. H. S. Oppenheimer, of New York; Dr. Charles McIlvaine, of Trenton; Dr. David P. Beck, of Cincinnati.

The next meeting of the Association will be held at New London, Conn., on the third Wednesday of July, 1888.

AMERICAN NEUROLOGICAL ASSOCIATION.[1]

THIRTEENTH ANNUAL MEETING AT LONG BRANCH.

FRIDAY, JULY 22, 1887.

DR. OTT read a paper on

THERMO-TAXIS.

The speaker called attention to the increased rise of temperature upon nerve-irritation, the effect of atropia upon the nerve-system, and the rise of temperature after the administration of this drug, its maximum effect being produced at the end of two hours. He considered stimulation of the heat-centres was produced by these means. He also called attention to the rise of temperature in cases of tetanus and convulsions.

DR. SPITZKA mentioned two cases of chorea, the temperature, in one case, rising to 104°, and in the other, to 107°. He had no reason to account for that rise of temperature, except the strong muscular action exhibited. He had also seen a case of chorea that resulted fatally, in which the temperature was 103°.

DR. DANA read a paper

ON A CASE OF ANENCEPHALITIS ILLUSTRATING THE SENSORY TRACT.

The case was that of a male child born at full term, weighing eight or nine pounds. There was no deformity, except that the head was rather peculiar, being very long and narrow. The bones were freely movable; the eyes were kept closed. The child died on the second day. At the post-mortem, a yellowish fluid squirted out from the brain. The first nerve was not fully developed. The arterial supply was inferior and undeveloped in some of its branches. The pons varolii was small, as was also the spinal cord. The speaker presented some excellent drawings of sections of the cord and brain, also, of these parts in the normal subject; the smallness of the cord being due to the diminished size of the lateral columns, the anterior columns, also, being narrower than normal. The gray matter of the cord and its cells was fairly developed.

THE TREATMENT OF NEURALGIA BY MEANS OF INTENSE COLD,

by GEORGE W. JACOBY, M.D.

The reader concluded that we possessed two refrigerants, chloride of methyl and the fluid carbonic acid, which can be easily and practically utilized in the treatment of neuralgias.

DR. MILLS asked the reader if he had used rhigolene.

DR. JACOBY replied that he had, but could not obtain the requisite amount of cold. In sciatica, however, it had produced decided relief for a long time, but it requires a great deal of rhigolene. Although it is cheaper, it takes so much that it really makes it expensive.

DR. LLOYD asked what the apparatus used by Dr. Jacoby costs.

DR. JACOBY replied that it cost $37.50, and one cylinder could only be used four times, but in Paris it could be filled for six francs.

DR. CHARLES K. MILLS, of Philadelphia, presented

[1] Concluded from page 161.

NOTES OF SOME CASES OF MULTIPLE NEURITIS (OR MYELITIS) OF SYPHILITIC ORIGIN, WITH REMARKS ON THE DIFFICULTIES OF DIAGNOSTICATING MULTIPLE NEURITIS FROM SOME FORMS OF MYELITIS.

The differential features given by Chapin, Starr, and others he regards as insufficient. Some of them were misleading. Common both to multiple neuritis and myelitis of the forms indicated, were atrophic paralysis, lost knee-jerk, and degeneration reactions, according to the best observers. Pain and tenderness were, in character, distinctly localized to nerve-trunks or certain muscles, and the absence of symptoms of paresis or paralysis of the bladder and bowels seemed to be the most definite marks of multiple neuritis, but could even these be regarded as positive, or, at least, absolute? It was certainly fallacious to decide in favor of neuritis, because of gradual onset, because the cases got well, because the paralysis was progressive and ascending, or because of the presence of numerous and persistent sensory manifestations.

DR. MILLS remarked that when the nerves and central organs were both involved, it was difficult to say which was first involved. He considered there were cases where it was impossible to discover whether the disease was central or peripheral. If we have paralysis of the muscles with loss of sensation and degeneration, the speaker thought it was neuritis; if sensation was present it was probably central.

DR. EDES stated that he reported a case some years ago in which he found symmetrical lesion in the cord; there was the usual amount of asthenia with rapidly advancing paralysis and atrophy below the knees and elbows; the case resulted fatally. The speaker thought Dr. Mills was right, and that these two things may co-exist, but whether the degeneration of the cord was owing to neuritis he would not be certain. He thought the tendency was to call these cases neuritis.

DR. PUTNAM remarked as to the connection of neuritis and the anterior columns of the spinal cord, the pain felt in polio-myelitis is really neuritic in origin. He had seen cases of pain with a loss of sensibility where the cord appeared to be healthy, but where the brain had spots of softening, the arteries were greatly thickened in the central nervous system. As Dr. Mills had suggested, the different types differ so strongly that we have to conclude we are dealing with a system of disease, and that the spinal cord and peripheral portion are related in some way. As regards the knee-jerk being exaggerated, several cases had been reported; the speaker could add two or three cases; he had examined cases of lead-poisoning and had quite a number of cases where the knee-jerk was exaggerated, where the symptoms would have suggested neuritis; this may be part of the general condition of hyperirritability of the nervous system.

DR. MILLS remarked he would like to get a positive opinion as to whether or not the presence of pain along a nerve trunk and hyperæsthesia can be present in the absence of peripheral nerve disease.

DR. LLOYD suggested the use of electricity as a means of diagnosis in these cases.

DR. STARR did not think this means could be depended upon, as the intensity of the disease was so varied. He thought a great many cases of polio-myelitis began without any sensory symptoms at all, and where it does occur at the beginning, the question comes in as to whether it is not neuritis; he did not remember seeing any cases where the cord was affected equally on both sides, one arm would be affected more than the other, and so it would be with the legs. In multiple neuritis both sides were affected similarly; as a rule, cases that he had seen during the past year followed out that idea. The speaker considered it a mistake to consider all cases that recover, neuritis; neuritis is not always favorable in its course, but it is more favorable than the other; there is a form of subacute polio-myelitis which may correspond with neuritis, pain and tenderness being points of great value in diagnosis.

DR. SPITZKA thought the pathological specimens too few to base any definite opinion on. In the last few months he had seen three cases where he would have defied any one to show him that they were cases of acute bulbar paralysis. They were after diphtheria; there was intense neuritis.

DR. DANA remarked that he considered alcoholic paralysis to be multiple neuritis; in these cases he had found the greatest variety of symptoms; in those cases of alcoholic neuritis we find neuritis alone, but cases have been reported where it has been combined with myelitis.

DR. MILLS said that he by no means denied the coexistence of the two diseases, but his desire was for the Association to discuss the different diagnostic points; he did not think electricity, as suggested by Dr. Lloyd, would be of great value; he felt convinced polio-myelitis began with sensory symptoms at times.

DR. FISHER read a paper on

A CASE OF BULBAR PARALYSIS.

The patient was a young married woman who had had several children; her family history was good. In the latter part of 1885, her speech became affected, the writer seeing her in February, 1886. The expression of the face then was characteristic of the disease, the lower lip hanging down and saliva flowing from the corners of the mouth, the tongue was small and atrophied and she could swallow with difficulty; examination of the larynx was almost an impossibility; reflexes were normal, the disease being confined to the hypoglossal and lower portion of the facial nerve; speech at length became utterly impossible, the mind was not affected, but the patent was very excitable and emotional. Emaciation then commenced, deglutition being extremely difficult, her food being confined to fluids. At night severe attacks of dyspnœa appeared, the patient being unable to cough.

At the autopsy the floor of the fourth ventricle, the region over the hypoglossal nerve was small and pale; the specimen after hardening showing an almost entire disappearance of the cells, the facial nerve was not involved in a marked degree.

Another case the writer quoted was that of a man who had syphilis, and who was thirty-five years of age. He had a sudden attack upon the left side of the face; the next month he had another attack upon the opposite side, also a cross paralysis; two months after, he could use the leg and arm again. One year later he had another attack but was not paralyzed, only remaining unconscious for four hours. Another case mentioned ended in recovery.

The writer presented microscopical specimens carefully prepared, showing the disappearance of the cells of the lower part of the facial nerve where the cells were found diminished in number; other sections were

made, but these were the only parts found to be affected in the first case mentioned.

DR. HAMILTON stated that he saw a remarkable case in 1881; it was well marked in the lips and tongue, but death did not occur until 1887; it was pronounced at the Neurological Society of New York where the patient was presented, as bulbar paralysis; at the end of three years it was pronounced hysteria; the patient had complained of symptoms a year before the speaker saw her; she finally died with all the symptoms of bulbar paralysis.

DR. THEO H. KELLY, New York, read a paper on

HYDROTHERAPY IN MENTAL DISEASES.

The object was to call a more general attention to the different forms of insanity and the methods of application of water in its many forms to these cases, as might be demanded. Reference was made to the past ages in which the use of water as a means of cure was much relied on; the Turkish bath in mental disease being often of great benefit. In mania, acute alcoholism baths are excellent, but in organic disease of the heart and lungs the Turkish bath is to be avoided or indulged but slightly. He considered that it diverted the blood from the central organs. The speaker mentioned the Russian vapor bath which averages from 105° to 110° as useful in some cases; the Roman bath in cases of melancholia; the bath, however, should not be indulged in when very tired or the stomach empty. In cases of nervous irritability the cold-water bath 40° to 60° is excellent, the patient being removed from the bed to the bath, remaining there for three minutes, and then again returned to bed. The tepid bath 80° to 95° and the warm bath 95° to 105° have also been of use in acute mania. The graduated bath should be reduced slowly from 98° to 60° or even 40°, this bath being the most acceptable and the most prompt means of reducing bodily temperature in alcoholic mania. The reader called attention to the wet pack, the shower bath, hot, warm, tepid and cold; also the douche bath, foot bath, sitz bath, the mustard bath, in the latter the genitals must be protected from the action of the mustard, three to six ounces of mustard being used to every thirty to sixty gallons of water. In some cases the use of hot or ice water bags is valuable applied to different parts of the body; in insomnia the hot spinal bag will often induce sleep. The ice cap or ice coil is almost universally used as a means of reducing temperature. The salt water bath, hot or cold, was referred to, those living from the sea-shore using the bag salt, five pounds of the salt to fifty gallons of water.

In conclusion, it might be said that the indications of hydrotherapy in mental diseases are to control bodily temperature, to stimulate local and general circulation, to produce diaphoresis and the elimination of certain substances through the skin, to hasten tissue changes and improve general nutrition, to allay irritability of the peripheral nerves, to procure sleep and relieve cerebral anæmic and hyperanæmia, and in a measure to take the place of drugs.

Balneotherapeutics in insanity are admittedly employed only experimentally as yet, but they are becoming a more exact science and indispensable in the treatment of mental diseases, they deserve a much more extended employment than has yet been accorded them in this country.

The meeting then adjourned until July of 1888.

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PHYSICAL TRAINING FOR THE POLICE.

THE problem of what sort of exercise is best adapted to a general, all-around physical perfection (as distinguished from mere brachial, crural, gastrocnemial or other local muscular hypertrophy) is one which deserves, as it is fortunately beginning to receive, the most careful study of medical men. That some systematic treatment is for most men, and we may add for most children, necessary to this end is coming to be generally admitted.

Dr. George Homan, Medical Examiner for the police department of the city of St. Louis, has recently published the results of his examinations of the existing police force of that city, as well as of the new recruits offering for such service. His pamphlet contains one or two conclusions interesting in this connection.

We may remark in passing that the figures recorded by him as the result of the examination of 482 men showed the average physical measurements and weight of all the men examined to be as follows: Height 5 ft. 8.22 in.; mean chest girth at level of one inch above the nipples, 38.13 in.; expansibility of chest, 2.75 in.; girth of waist, 34.13 in.; and weight, 167.13 pounds. The individual maximum and minimum of these dimensions were as follows: Height, 6 ft. 3.50 in., and 5 ft. 3.62 in.; mean chest girth, 48.25 in. and 31 in.; expansion of chest, 4.50 in. and 1.25 in.; girth of waist, 50 in. and 25 in.; weight 279.50 pounds and 110 pounds.

He places very properly more stress upon the play of the chest wall as an indication of vital capacity than upon the absolute circumference of the chest, which depends on adventitious circumstances, as the amount of fat on the ribs, the prominence of the scapulæ, etc. His chest measurements of such recruits as were added to the force during the last two years, show that the average mean chest girth of 122 such recruits exceeded the average of the regular patrolman about one-fourth of an inch, while the average chest expansibility of the former exceeded that of the latter about two-thirds of an inch.

Now comes the important fact that as a nearly constant result of police service it was found that this respiratory advantage was gradually *lost, or much impaired*, often within less than a year after appointment, and from facts collected and observations made the writer confidently ascribes a very considerable share of the pulmonary disabilities, which he finds to be very common in the force, to the neglect by the department of means to maintain and develop this normal degree of respiratory capacity.

Aside from one hour's drill per week in the manual of arms during the winter months, no bodily or athletic exercise is required of a policeman other than that involved in patroling the district assigned to him, with the incidental exertion needed on his part to maintain law and order therein, the result being that there is usually plentiful foot and leg exercise to the neglect of other highly important parts of the body.

In repeated instances applicants for appointment coming from occupations requiring all-around exercise, such as porters, mechanics, teamsters, and in whom the respiratory apparatus was found to be of superior excellence as regards both free expansibility and normal breathing sounds, after six months' police service the normal expansion had decreased from one-half to one inch, or even more, and the comparative rigidity of the chest walls was accompanied by impaired or roughened vesicular murmur, with symptoms of circumscribed congestions, incipient catarrhs, and other signs of sluggish pulmonic circulation, the girth of the chest being usually not sensibly changed.

Dr. Homan expresses it as his opinion "that the omission from the department equipment of means for regular systematic chest and arm exercise, and the enforcement of their use as a necessary part of routine duty in any police force on a service-basis similar to the one in St. Louis, indicates a point of vital weakness, and that such lack constitutes an unguarded avenue by which a host of physical evils assail the municipal defenders of life and property.

"A fair degree of speed, with good wind-endurance is recognized as being a necessary physical qualification of the perfect officer, and these requisites can only be secured by appropriate gymnastic drill designed to exercise and harmoniously develop and preserve the entire body."

The writer further says that he has found excellent results in improvement of the chest-play and with it of the tendency to respiratory disorders, to follow the use of hand-weights, sand bags, clubs and other devices for symmetrical physical exercise, to the limited extent to which he has been able to secure their systematic employment. His conclusion is that a certain percentage of the waste to the municipality from pulmonary diseases in the police force is avoidable, and that a system of systematic training which should increase the average breathing capacity, say one-half inch per man, would lessen the total time lost by illness from lung diseases one-third, while the general gain in moral and physical power would be 50 per cent.

DEATH AFTER INOCULATION BY THE METHOD OF PASTEUR.

Two new cases of death after Pasteurization are reported. One of these individuals, belonging to Charente, died sixty days after being bitten, and forty-five days after undergoing Pasteur's treatment.

The second case was that of a woman, aged fifty-seven, named Guele, who was bitten by a mad dog March 27, 1887. The bite, which was about the wrist, was immediately cauterized. The patient went to Paris March 29th, and was submitted to anti-rabic inoculations for thirteen days. She then returned to her home in Lalonbère, where she was a servant in a family. It was remarked that her temper had become very irritable. About July 16th, the patient was unable to swallow liquids; on the 20th, her limbs became weak, and she fell to the floor. At this period the hydrophobia was well developed, and the patient died on the 21st.

EXPERIMENTAL RESEARCHES ON THE PRODUCTION OF ALCOHOLIC CIRRHOSIS OF THE LIVER.

At the meeting of the Society of Biology, held in Paris, July 16th, Straus communicated the results of some experiments which he had made, with the assistance of his interne, Blocq, on the artificial production in animals of alcoholic cirrhosis of the liver. His experiments pertained to twenty-four hares, in the stomach of which he had directly injected a daily dose of half-an-ounce of a mixture of absolute alcohol, and methyl alcohol, diluted with three parts of water. Immediately upon receiving this injection, the greater part of these animals fell as if paralyzed, and for several hours they lay in deep coma. When, after the expiration of a certain time, these animals were killed, the experimenters invariably found the usual lesions of alcoholic gastritis; thickening of the mucous membrane, ecchymotic petechiæ of the surface, etc., but what especially attracted their attention was the pathological condition of the liver. This organ did not present to the naked eye any very marked alterations; it was smooth on surface as well as on section; the acinic, nevertheless, were surrounded by a reddish gray line, and in animals that had been kept most of the time intoxicated for three or four months, the ultimate perilobular portal spaces were found infiltrated with embryonic cells. In hares that had been kept constantly subjected to the action of the poison for seven or eight months, the hepatic lobules were completely surrounded by a crown of connective-tissue cells, and the experimenters had before them typical cases of annular perilobular and monolobular cirrhosis. "Nothing," says M. Straus, "is more natural than this localization; the alcohol, coming to the liver by the finer branches of the portal vein might be expected, first of all, to exert a baneful action on points where its contact is most intimate." As for the hepatic system of veins (intra-lobular, sub-lobular veins, and hepatic trunks), it never, according to Straus's

researches, participates in the processes of alcoholic cirrhosis.

In the discussion which followed the communication of M. Straus, M. Magnan related the results of some experiments of his own in the induction of chronic alcoholism in dogs. In dogs that are made to take daily a certain quantity of alcohol mixed with their food, one will note after such ingestion, instant staggering, followed by paralysis with coma. When they come to themselves, these animals present oscillations of the head first, then of the limbs, a veritable trembling, resembling in every respect that of the chronic human inebriate. Moreover, these dogs have terrifying hallucinations, for in the night-time they will all at once betake themselves to barking and howling, as if in the presence of a real danger. In a word, alcoholism in the dog is the exact counterpart of alcoholism in the man.

MEDICAL NOTES.

— The United States consul at Palermo, in his dispatch dated Palermo, August 1, 1887, states that "during the week just closed only twelve cases and six deaths from cholera have been reported in the journals. . . . No public official reports have been made thus far, . . . but it is known that many more cases and deaths have occurred than those reported in the journals, a larger number, indeed, having come under my own observation. In view of the temper and character of the people, the authorities naturally desire to keep the matter quiet as long as possible. A few 'demonstrations' have been held, and the municipality threatened because of its having temporarily discontinued the free distribution of rice. Upon the occasion of former threatened epidemics in Palermo, Sicily has been practically quarantined and shut out from all other ports of Italy, thus ruining trade for months. This year, however, she is fortunate in having a Palermitan in the cabinet at Rome . . . to whom she is indebted for perfect freedom to enter Italian ports thus far, after inspection, disinfection, etc."

The United States minister at Copenhagen, in his dispatch under date of July 29, 1887, states that a quarantine order has been issued by the Danish Government July 18, 1887. "According to this order, the provisions of the quarantine law of March 31, 1885, are to be enforced in regard to ships coming from Sicily or Italian continental ports between the Capes St. Maria and Spartivento, and the importation of rags, etc., from these ports is prohibited."

— The New York Board of Health being appealed to by the Park Commissioners for some deodorizer which should keep down the stench from the gas-saturated earth turned up in sub-way excavations in New York City, conducted various experiments, and finally reported success from the use of bromine water, made by dissolving a pound of bromine in a barrel of water. This quantity of solution, costing $1.00, is said to render two hundred feet of trench free of nuisance.

— The following ingenuous certificate was lately given by a hospital externe to a patient who requested a document to show his incapacity for work: "This is to certify that —— —— has been under treatment here for five weeks and therefore is unable to work."

— A Western contemporary says: "Country physicians save more money every year, on an average, than city doctors. Their minds are free, their consciences easy, and their pocket-books flush, even if they cannot 'put on style,' and hold prominent college and government positions."

—In the Pitti Palace, at Florence, is a table, says the *Medical Press*, which for originality in the matter of construction and ghastliness in conception, is probably without a rival. It was made by Giuseppe Sagatti, who passed several years of his life in its manufacture. To the casual observer it gives the impression of a curious mosaic of marbles of different shades and colors, for it looks like polished stone. In reality it is composed of human muscles and viscera. No less than a hundred bodies were made use of for the material. The table is round, and about a yard in diameter, with a pedestal and four claw feet, the whole being formed of petrified human remains. The ornaments of the pedestal are made from the intestines, the claws with hearts, livers, and lungs, the natural color of which is preserved. The table-top is constructed of muscles artistically arranged, and it is bordered with upwards of a hundred eyes, the effect of which is said to be highly artistic, since they retain all their lustre and seem to follow the observer. Sagatti died about fifty years ago. He obtained his bodies from the hospitals, and indurated them by impregnation with mineral salts. To add to the horror which such a piece of furniture is calculated to inspire in the minds of most people, the fate of Count Rittaboca, its last owner, may be related. One Christmas Eve he and his friends were playing cards on this table, when suddenly he jumped up, pale and agitated, overcome by the fixed gaze of these petrified eyes. Yielding to a sudden attack of violent mania, he stabbed himself and fell upon the table. His heirs, as may be imagined, were very pleased to sell this funereal object to the Government, who installed it in its present situation.

BOSTON.

— The death-rate last month in Boston is said to have been the highest on record. Eleven hundred and nineteen persons died in that month, whereas the number for July, 1886, was only 889. Figuring on a basis of 400,000 population, the rate per 1,000 inhabitants was 33.57 per cent. last month. The mean temperature during the month was 73°. It was 73° in July, 1873, and 73.8° in July, 1876; but in those years the death-rate was not excessive. The comparative humidity, however, was very striking, for whereas in 1873 it was 66.4°, and in 1876, 69.4°, this year it was 77°, showing the heat of last month to have been the most oppressive and fatal of any month for fifteen years, which is as far back as the table goes. The

mean barometer during the month was 29.98, the highest (July 5th) 30.20, and the lowest (July 10th) 29.54. The highest temperature was 95° (July 2d), the lowest 61° (July 10th). The greatest daily range was only 26°. Over half of the whole number of July's dead were children under five years of age, while almost half were very young infants. The number dying under one year old was 417; under two years old, 519; under five years old, 567. Diarrhœal diseases carried off 222 under one year old, 263 under two years, 268 under five years old, and 292 of all ages. Cholera morbus killed 8 persons last month, against 6 in July, 1886; and cholera infantum killed 233 last month, against 170 during the July before.

NEW YORK.

— Among the papers of interest read during the closing days of the meeting of the American Association for the Advancement of Science, was one read by Prof. Albert R. Leeds on "The Scientific Basis of the Feeding of Infants," in which he expressed the opinion that the mortality among bottle-fed infants was largely due to the kind of food ordinarily given them, which he believed to be physiologically as unsuited to the nutrition of a human infant as grass and hay were to the nutrition of a young calf deprived of its mother's milk. Prof. C. M. Woodward, Director of the Manual Training School of St. Louis, read a paper on "The Methods and Results of Manual Training," in which he considered the methods of the manual training schools, the economic results of manual training, the difference between manual training schools and European trade-schools, and the progress of manual training since the meeting of the Association at Philadelphia, three years ago, when the subject was discussed. Prof. J. W. Powell, of Washington, Director of the United States Geological Survey, was elected President of the Association for the ensuing year, and F. W. Putnam, of Cambridge, Mass., Permanent Secretary.

— The seventeenth annual convention of the New York County Superintendents of the Poor was held at Babylon, Long Island, August 15th and 16th, when the abuses of the county almshouses and the obligation of the public to the dependent and helpless classes were ably discussed by Dr. E. H. Howard, warden of the Monroe County Insane Asylum, and others. Among the other papers read was one by Dr. Stephen Smith, Commissioner of Lunacy, on "The Insane Asylums of New York State."

— Dr. Moreau Morris, Chief Inspector of the Summer Corps of the Board of Health, reports that, during the week ending August 13th, the physicians of the Corps visited 4,561 tenement-houses, containing 30,704 families, and prescribed for 1,089 cases of illness, of which more than 500 were diarrhœal in character. One hundred and fifty-three complaints of the unsanitary condition of premises were made, and 3,164 circulars and 1,512 tickets for St. John's Guild free excursions were distributed.

Miscellany.

ON THE COMMUNICABILITY OF TYPHOID FEVER THROUGH THE AIR.

At the Medical Society of the Hospitals, session July 22d, M. Devaiz communicated the fact of an epidemic of typhoid fever which he had recently witnessed, and which seemed to show that this disease may sometimes be propagated by the air, as well as by drinking-water. The water of the locality had, in fact, been examined very thoroughly, without any micro-organisms being discovered. On the other hand, the dejections of the first patient attacked had been thrown, without previous disinfection, into a privy, near which slept the three persons who next fell victims to the disease. It seemed, therefore, probable that the typhoid germs had been transported by the air, and that it was to this vitiation of the air that the communication of the disease in, at least, some of the instances was due.

MEMBRANOUS ENTERITIS FOLLOWED BY INTESTINAL PERFORATION FROM ULCUS ROTUNDUM.

Dr. Rothmann described at the session on June 20th of the society for internal medicine, Berlin, (as reported in *Deutsche Medizinal-Zeitung*, No. 53, 1887) a case of a patient who died with intestinal perforation, who during life had passed those fibrinous masses usually described as characterizing membranous enteritis. The patient, who had been under observation for several years, suffered from intestinal obstruction, and had for nine years had bleeding hæmorrhoids for which he had been successfully operated upon. Soon after this, he was attacked with colicky pains accompanied with vomiting. He complained of pain in the left hypochondrium. The heart showed nothing abnormal. The pain passed off with a sensation as if fluids and gases were passing through a constricted spot in the intestines. At the same time with such sensations fibrinous masses always appeared in the dejections. Two years before, for the first time, there appeared evacuations of dark blood, which ceased after the use of ice and acetate of lead. After a considerable time they ceased, and appeared for the last time in January of the present year. The patient then rallied and looked well. No tumor was to be felt in the abdomen. On the night of June 16th, he was suddenly seized with the severest pain, became very pale and had a small and quick pulse. For the first time vomiting of blood occurred. The abdomen was hard as a board. There was a smothering sensation referred to the sides and the lower abdomen. The symptoms were clearly those of intestinal perforation. Operation was out of the question on account of the marked collapse. Death occurred in twenty hours. Post-mortem section showed round ulcer of the duodenum, and rupture *in loco*, adhesion to the colon at the lower part of the ulcer, while the tear took place at the upper part of it. In the colon was a slight stenosis which evidently corresponded to the place the patient had described as feeling narrowed. There was no other lesion in the colon.

Correspondence.

EXCESSIVE HEAT THE EXCITING CAUSE OF TUBERCULOSIS.

BUFFALO LITHIA SPRINGS, August 11th, 1887.

MR. EDITOR, — In the *Boston Medical and Surgical Journal* of August 4th, appears a communication on "Excessive Heat the Exciting Cause of Tuberculosis," by Dr. Thomas H. Buckler.

This is a subject of great interest to the profession at large, especially to those who are accustomed to practice during the winter months in southern countries, such as Georgia, Florida, Bermuda, Riviera and Italy, where invalids suffering from pulmonary diseases most do congregate. My experience has been that the tuberculosis deposit which undoubtedly takes place during the heated term, may remain in the system much longer than the setting in of cold weather and not develop till the following spring. I refer only to cases of acute miliary tuberculosis. In one of those occurring in my own practice, the disease did not make its appearance until the latter part of March of the next year after an excessively hot summer.

If Dr. Buckler has not already done so, I think he will find by examining the reports of the Charité Hospital, at Berlin, that the mortality from acute miliary tuberculosis is much greater during those winters preceded by excessively hot summers. In many of these cases the anamnesis is unable to reveal the slightest hereditary taint, demonstrating conclusively that excessive heat was the direct exciting cause, as Dr. Buckler suggests. It is strange, however, that this, as it seems to have done, *should* have escaped the observation of German scientists, who although recording a higher rate of mortality from acute miliary tuberculosis after an exceeding hot summer, do not ascribe the cause of this mortality to excessive summer heat, nor indeed connect the two factors in any way, but seek an explanation of it in hereditary taint and the cold of the succeeding winter. Antithetical, however, is the query whether there are not more consumptives in England than in any other country in the world, in proportion to the number of inhabitants, and less sunshine? It is stated on the other hand, that the mortality from consumption in St. Augustine among those living there all the year round, is much greater than in towns of the same number of inhabitants farther North, — a fact easily accounted for by the excessive summer heat prevailing in Florida.

We are referring, as noted, mostly to acute miliary tuberculosis, excluding chronic phthisis. If now we regard the meteorological differences of climate in England, we find the summer heat relatively as excessive as elsewhere, and doubtless the exposure to it as great, proportionately, as in other countries, although the mean temperature throughout the year may be lower. The antithesis is therefore not real, but only apparent, and the case of excessive summer heat as the exciting cause of tuberculosis is a clear one. The proverbial antipathy of the Italians to going in the sun may account for the small number of cases of acute miliary tuberculosis occurring among them. Avoiding exposure to the sun's rays in hot weather seems almost too simple to be regarded as a prophylactic measure, yet in view of the above facts it is unquestionably a very valuable one. Yours very truly,

G. HALSTED BOYLAND, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 13, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	741	397	33.15	10.01	1.43	4.68	23.66
Philadelphia	993,801	426	214	25.44	10.94	3.60	1.44	17.76
Brooklyn	745,108	312	176	37.12	9.60	1.60	2.88	30.08
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	199	102	36.72	13.77	2.04	—	30.09
Boston	400,000	237	131	36.96	17.60	2.52	.42	30.24
New Orleans	242,750	114	48	23.76	11.34	—	7.04	6.16
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	97	44	25.75	5.15	—	1.03	14.42
Pittsburgh	210,000	118	61	37.40	11.05	5.95	4.25	23.80
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	95	59	39.90	6.30	1.05	1.05	31.55
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	25	11	24.00	8.00	—	—	16.00
Charleston	60,145	41	15	26.84	9.76	10.32	—	20.64
Portland	40,000	14	5	21.42	21.42	—	—	14.28
Worcester	68,383	25	7	24.00	16.00	4.00	—	12.00
Lowell	64,051	44	25	47.67	4.54	4.54	—	45.13
Cambridge	59,660	30	16	29.99	6.66	3.33	3.33	19.99
Fall River	56,863	38	25	59.49	10.52	5.26	5.26	49.97
Lynn	45,861	27	15	22.22	11.11	3.70	—	14.80
Lawrence	38,825	14	6	35.70	7.14	—	—	35.70
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	19	14	42.14	—	—	—	42.14
Somerville	29,992	16	5	13.50	25.00	—	—	6.25
Salem	28,084	18	10	33.33	5.55	—	—	33.33
Holyoke	27,894	13	6	69.21	7.69	—	15.38	53.83
Chelsea	25,709	10	7	10.00	20.00	—	—	10.00
Taunton	23,674	14	3	35.70	14.28	7.14	—	28.56
Haverhill	21,795	14	7	28.56	28.56	—	—	28.50
Gloucester	21,713	10	6	20.00	10.00	—	—	20.00
Brockton	20,783	8	3	—	25.00	—	—	—
Newton	19,759	4	4	75.00	—	—	—	75.00
Malden	16,407	5	2	40.00	40.00	—	—	40.00
Fitchburg	15,375	5	3	20.00	20.00	—	—	20.00
Waltham	14,699	5	2	40.00	20.00	—	—	40.00
Newburyport	13,716	4	1	25.00	25.00	—	—	25.00
Northampton	12,896	7	2	28.56	14.28	—	—	28.56

Deaths reported 2,639: under five years of age 1,432; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 909, consumption 282, lung diseases 116, diarrhœal diseases 673, diphtheria and croup 72, typhoid fever 60, malarial fever 36, whooping-cough 31, scarlet fever 16, cerebro-spinal meningitis 11, measles five, puerperal fever 3, erysipelas one, small-pox (New York) one. From malarial fever, New Orleans 11, District of Columbia eight, New York seven, Brooklyn four, Philadelphia, Baltimore and Charleston two each. From whooping-cough, Boston nine, New York six, Philadelphia, five, Baltimore four, Pittsburgh, and Milwaukee two each, Brooklyn, New Orleans, and Nashville one each. From scarlet fever, New York six, Philadelphia three, Brooklyn and Pittsburgh two each, Baltimore, Milwaukee, and Lynn one each. From cerebro-spinal meningitis, New York three, Portland, Milwaukee, Cambridge and Somerville one each. From puerperal fever, New York two, Nashville one. From erysipelas, Brooklyn one.

In the 23 cities and greater towns of Massachusetts, with a population of 1,083,730 (population of the State 1,941,465) the total death-rate for the week was 27.83 against 30.01 and 32.86 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,214,099, for the week ending July 30th, the death-rate was 23 2. Deaths reported 4,115: infants under one year of age 1,754; acute diseases of the respiratory organs (London) 160; diarrhœa 921, whooping-cough 165, measles 121, scarlet fever 46, diphtheria 25, fever 24.

The death-rates ranged from 13.9 in Derby to 30.1 in Preston; Birmingham 19.9; Bolton 17.6; Bradford 22.3; Hull 17.0; Leeds 27.7; Leicester 25.9; Liverpool 25.3; London 24.8; Manchester 26.7; Newcastle-on-Tyne 24.6; Nottingham 17.5; Sheffield 22.6; Sunderland 14.5.

In Edinburgh 20.0; Glasgow 18.3; Dublin 30.9.

The meteorological record for the week ending August 13, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Aug. 13, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,... 7	30.00	66.0	73.0	61.0	65.0	44.0	66.0	58.0	N.	N.	N.	12	13	12	C.	C.	C.		
Monday,.. 8	30.24	67.0	75.0	55.0	55.0	46.0	60.0	54.0	N.	S.E.	N.W.	8	6	1	C.	C.	C.		
Tuesday,.. 9	30.19	67.0	77.0	58.0	66.0	55.0	73.0	65.0	N.W.	S.E.	S.W.	4	9	6	C.	C.	C.		
Wednes.,.10	30.03	72.0	83.0	60.0	74.0	54.0	83.0	70.0	W.	S.W.	S.W.	12	12	17	O.	O.	C.		
Thursday, 11	29.98	73.0	86.0	67.0	90.0	63.0	88.0	87.0	S.W.	S.W.	S.W.	12	24	16	O.	O.	R.	7	.24
Friday, ...12	29.82	73.0	86.0	67.0	84.0	51.0	58.0	64.0	S.W.	W.	N.	11	16	12	O.	C.	C.		
Saturday,. 13	30.06	64.0	72.0	58.0	49.0	36.0	64.0	50.0	N.E.	N.E.	W.	12	11	10	C.	C.	C.		
Mean, the Week.	30.034	68.9	78.0	61.0				64.0										7	.24

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; [2]T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 13, 1887, TO AUGUST 19, 1887.

BAXTER, J. H., colonel and chief medical purveyor. Ordered to proceed from Washington, D. C., to New York City, on public business, and on completion thereof, to return to this city. Par. 5, S. O., No. 187, A. G. O., August 13, 1887.

WOLVERTON, W. D., major and surgeon, Washington Barracks, D. C. Granted leave of absence for twenty days. Par. 3, S. O., No. 171, Division of the Atlantic, August 16, 1887.

BYRNE, CHARLES B., captain and assistant surgeon, Washington Barracks, D. C. Granted leave of absence for one month, with permission to apply for an extension of one month. Par. 4, S. O., No. 171, Division of the Atlantic, August 16, 1887.

WILSON, GEORGE F., captain and assistant surgeon. Granted leave of absence for fifteen days. S. O., No. 78, Department of Dakota, August 8, 1887.

DIETZ, WILLIAM D., first lieutenant and assistant surgeon. Granted leave of absence for two months, with permission to apply for an extension of one month. Par. 7, S. O., No. 189, Headquarters of the Army, A. G. O., August 16, 1887.

MCCAW, W. D., first lieutenant and assistant surgeon. Relieved from temporary duty at Fort Riley, Kansas, and ordered to his proper station, Fort Leavenworth, Kansas. Par. 3, S. O. 84, Department of Missouri, August 15, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING AUGUST 20, 1887.

ROBINSON, L., medical inspector. Placed on retired list.

GARDNER, J. E., passed assistant surgeon. Detached from Naval Hospital, Norfolk, Va., and ordered to the Fish Commission Steamer "Albatross."

MARTIN, WILLIAM, assistant surgeon. Ordered to Naval Hospital, Norfolk, Va.

REYPEN, VAN, W. K., surgeon. Appointed medical Inspector from August 16, 1887.

SIMONS, M. H., passed assistant surgeon. Appointed surgeon from August 16, 1887.

SOCIETY NOTICE.

The Annual Meeting of the AMERICAN ACADEMY OF MEDICINE will occur at Washington, D.C., beginning Wednesday, September 3d. The Third Annual Collation will be served at the Hotel Arlington, at nine o'clock on that evening.

RICHARD J. DUNGLISON, M.D., *Secretary*.

OBITUARY.

SUMNER PUTNAM, M.D.

Sumner Putnam, M D., a prominent physician, of Montpelier, Vermont, well known throughout the State, died August 20th, aged sixty-nine years and six months. He was a member of the State Legislature from Greensboro in 1857 and 1859; had been the medical examiner of the National Life Insurance Company since 1876; had been President of the Vermont State Medical Society, and was treasurer of that organization at the time of his death.

BOOKS AND PAMPHLETS RECEIVED.

The Medico-Chirurgical College of Philadelphia. Sessions of 1887–88.

Second Annual Report of the State Board of Health of the State of Maine. For the Fiscal Year ending December 31, 1886. Augusta, 1887.

Autobiography of Samuel D. Gross, M.D., D.C.L., Oxon, etc. With Sketches of his Contemporaries. Edited by his Sons. In two Volumes. Philadelphia: George Barrie, Publisher. 1887.

Announcement and Catalogue of the National Medical College, Medical Department and Dental Department of the Columbian University, Washington, D. C. For the Sixty-Sixth Session, 1887–88.

Publications du Progrès Médical, Paris. 14 Rue des Carmes, Paris. Le Charbon des Animaux et de l'homme par T. Straus, Professeur agrégé. Un volume en 8°. 223 pages. avec 4 figures et une planche. Prix, 6 fr.

The Principles of Antiseptic Methods applied to Obstetric Practice. By Dr. Paul Bar, Accoucheur to the Maternity Hospital, Paris, etc. Translated by Henry D. Fry, M.D. Philadelphia: P. Blakiston, Son & Co. 1887.

The Radical Cure of Retro-displacements of the Uterus and Procidentia by Alexander's Operation and Median Corporraphy. By J. H. Kellogg, M.D., Superintendent Medical and Surgical Sanitarium, Battle Creek, Mich. 1887. (Reprint.)

Colonial and International Congress on Inebriety, London, England, July 6 and 7, 1887. Paper and Addresses by Delegates from the United States of America. Also a Report of a Reception given to T. D. Crothers, M.D., by the President and Council of the Society for the Study of Inebriety in Great Britain.

Original Articles.

THE TRAINING OF NURSES IN PRIVATE PRACTICE.[1]

BY ALFRED WORCESTER, M.D., OF WALTHAM.

THERE is a widespread belief that in sickness, as much depends upon the nurse as upon the physician. This belief is founded partly upon fact; for the nurse is the physician's lieutenant, and, of course, it is of as much importance that the medical orders shall be properly executed, as it is that they shall be properly given. But such comparisons evince entire ignorance of the physician's responsibilities. It is his duty not only to give proper directions for the management of every patient under his charge, but also to see that his orders are intelligently obeyed. There is no excuse for him in the fact that trusty agents are not at his hand; for it is his business to provide them, and until he can be sure of intelligent, faithful nursing service, he must not undertake the management of more cases of sickness than he can in person superintend.

Where the family or the friends of the patient undertake the nursing service, the physician is partially relieved of responsibility for any improper execution of his orders. It is his duty, however, in such cases to point out the disadvantages of such untrained nursing, if discovered, and to be then ready to supply suitable nurses, if wanted.

In times of war and in the hospitals, this need of trained nurses has been recognized and met. Thirty-three years ago the Crimean war gave to the world Florence Nightingale, and now, under the banner of the Red Cross, her followers stand ready in every civilized country of the world, to imitate her immortal example. Twenty-five years ago the New England Hospital for women and children began in this country the training of nurses; and now scarcely a single hospital can be found that is not reaping the advantages of trained nursing service. Nor are these advantages limited to the hospitals. Trained nurses find an increasing demand for their services in private practice. In no other department of labor is the standard of excellence so rapidly rising. Nursing is already a profession, and no longer a trade of last resort.

One result of this improved nursing service, and of the increasing demand for it, is the high rate of wages that the graduates of the training schools find no difficulty in obtaining at the very beginning of their private practice. Only the more wealthy families can as yet afford to employ them. The whole question of wages, however, depends upon the proportion of the supply to the demand. And families in moderate circumstances will not be able to have better nursing service until the supply of trained nurses exceeds the present demand for them. When that occurs, the present prices will fall, and nurses on graduation from the schools will have to be content, as have young members of every other profession, to begin at the bottom, and not, as at present they can do, at the middle of the ladder of earnings.

Inasmuch as by far the greater part of our practice is among that class now deprived of the improved nursing service, ought we not to take measures to supply the increasing demand for it, and to further the spread of its great advantages?

It must be confessed that hitherto the medical profession has not only not taken the initiative in this reform, but has even impeded its progress. Training schools for nurses have been generally at first opposed by the hospital staffs; and the graduates of the training schools have often failed to satisfy the unreasonable expectations of the physicians first employing them. Undoubtedly some of this trouble has been due to the fact that the physicians have been only indirectly concerned in the nurses' training and, accordingly, have not held themselves responsible for the nurses' advancement after graduation. Nor has it been thoroughly understood that the training the new order of nursing rests upon is designed simply to furnish intelligent lieutenants. Without explicit orders, correcting criticism, and the encouragement of confidence, very likely the old-time nurse will do as well as the best trained nurse.

On the other hand, it cannot be denied that the trained nurses on leaving the hospitals have shown an inability to adapt themselves to the varying service of different physicians, and to the circumstances of private practice. This fault is evidently due to the present methods of training, and can be remedied by sending the student nurses out into private practice, under physicians whose coöperation in their training can be secured.

But it is surely unnecessary at this day to dwell upon the slight disadvantages of the new order of nursing. And it is not so much the purpose of this paper to discuss the possible improvement in the present training schools as it is to demonstrate the way in which the supply of trained nurses can be so increased that their services may be had in every village of the land. At present, they can be had only in the larger cities, and even there only the rich can afford their services. Their number, it is true, slowly increases, but not nearly as many nurses as physicians are graduated each year; while, in order to supersede the untrained nurses, it would be necessary to provide probably three times as many trained nurses as there are physicians depending upon their services. It is evident that this large supply, which must be provided before their employment becomes general, cannot be furnished by the present methods of training. The schools connected with the hospitals can train each year only as many nurses as are needed for the work of the hospitals,— a number much less than that of the yearly graduates in medicine.

If, then, new methods of training must be adopted, in order that the growing demand may be met, and that even in the families where the income is small, the patient and the physician may have the great advantage of trained nursing service, it is surely incumbent upon the medical profession to devise and to inaugurate these new methods of training. This duty rests primarily upon the country doctors. In the larger cities the hospital training schools can furnish nurses for the wealthy, and physicians can send their poorer patients to the hospitals, or avail themselves of the excellent system of district nursing — the latest flower in this springtide of charities. But in the smaller cities, and in the towns and villages, the physicians, if they desire the great advantages of this new dispensation, must train their own nurse. It is one of the many new duties that have fallen upon the med-

[1] Read before the Massachusetts Medical Society, June 8, 1887, and recommended for publication by the Society.

ical profession; and it is therefore desirable to have some general plan for its performance.

Fortunately there is no trouble nowadays in finding young and strong women well fitted and eager for such training. The schools in operation have long lists of applicants who wait their chance to enter. Let it be known in any community that the physicians contemplate instituting a training school, and candidates in plenty will come forward. But they have read "Sister Dora," and perhaps Florence Nightingale's famous notes, and although they would prefer not to leave their native towns and their friends, they nevertheless desire thorough training. They stand precisely where the would-be doctors stood a hundred years ago, before medical schools were to be found: they want the physician to teach them. They will gladly work hard for wages that will barely support them, they will gratefully give to the physician most loyal, hearty service, if meanwhile they can be learning the art of nursing. Let us consider how this should be taught.

From the general similarity of the two professions of nursing and of medicine, it is evident that, for excellence in either, much the same kind of training is requisite. The difference between them, however, relieves the nurse of the responsibility of deciding what is the nature of the patient's trouble, and what should be done to relieve it: her only duty is to carry out the treatment ordered, and to note the different symptoms as they occur. The nurse, then, may well be ignorant of the theory, but she must be somewhat acquainted with the practice of medicine. She need not know in any given case why catharsis is advisable, but she must know what to expect when a cathartic is given.

The only exception to this general rule is in the matter of emergencies. In this department, it is necessary to drill the nurse so thoroughly that she will always have her wits in working order, whatever her patient's danger may be. There is no use in expecting her to remember blind rules. She must be taught the principles upon which the rules depend. Better far that the nurse shall remember the blood-starved condition of the brain in syncope, than that she should remember any rule for its relief. She must understand the underlying principle, if common-sense treatment is expected of her.

But training for emergencies, happily, demands only a small fraction of consideration. In order that the nurse in general practice may be able to carry out the medical orders intelligently, and report intelligibly the changes that take place during the physician's absence, she must have a working knowledge of elementary anatomy and physiology; of the general progress of the common diseases; and of the effects of the more powerful drugs.

Student nurses should, therefore, be taught enough anatomy, that they may understand the general workings of the body, and be able to use and to understand anatomical terms descriptive of the body's surface. Some knowledge of the structure and function of the lungs, for instance, is prerequisite to any satisfactory realization of the necessity of pure air. And it is a matter of more than mere convenience to all concerned that the nurse and physician shall be able to understand each other's use of the words stomach and abdomen.

In the hospital training schools, the student nurses may, perhaps, safely be left to learn what it is important for them to know about the different diseases, as these diseases are met in the wards; but in the country schools, where the nurses' experience is more slowly acquired, they must be taught, before the disease is met, its general characteristics. The special nursing required in typhoid fever, for example, must be taught beforehand, if the nurse is expected to take the best care of her first typhoid patient; and this can best be taught by describing the nature of the disease. The medical student is taught not only how to treat, but how to diagnosticate diseases that he has never seen; and there is no reason why nurses should not likewise be taught the special nursing needed in diseases they have not seen.

As regards materia medica, it is not so plain how much and how little nurses should be taught. The bugbear of the nurse's meddling in the physician's province must not prevent her being taught, at least, enough about drugs to prevent her from making grave mistakes in administering medicine. Not only is it convenient, but it is often necessary, to leave medicine, opium, for instance, in the nurse's hands, to be given *pro re nata* or *si opus sit*. In such cases, the nurse must be able to recognize the effects of the drug, and also the indications for its use. There is no danger of the trained nurse's knowing too much, and the more knowledge of medicines she obtains, the less likely will she be to attempt to prescribe them.

The instruction in these branches, if it is to be as systematic as it should be, must be given by the physicians in regular lesson hours. The student nurses can be assembled at their headquarters on certain afternoons or evenings. And, except when in charge of the very sick, it is a benefit to both nurse and patient for the nurse to go out for the freshening walk, and for the stimulus that the lesson gives; and again, these meetings of the student nurses with the physicians are beneficial to both. The nurse feels her instructor's interest in her advancement, and shares somewhat the enthusiasm of his high calling. The physician, on the other hand, finds it not in the least a disadvantage to be thus forced to review his foundation studies; he acquires a higher appreciation of the importance of the sister-art of nursing; he can realize and sweep away the obstacles to the nurse's success. A good working basis for both is thus established, which, in times of anxious watchings, brings forth the fruit of comfort a hundredfold.

Besides this groundwork that nurses should be taught by their medical instructors, the arts of cooking for the sick, and of keeping the patient and the sick chamber in exquisite order, must be taught them by women who are themselves proficient. The multitude of little ways of giving comfort to the sick, discoveries accumulating rapidly and being disseminated by books, and now also by the nurses' journal, *The Nightingale*, can, after all, be best taught by actual example. In these exceedingly important branches of the nurses' training, the students in the hospital training schools have the advantages of working with trained nurses, and also with nursing their patients in surroundings especially adapted for the purpose. The latter advantages can be had in the country training schools by making a miniature hospital out of some tenement, where a few patients may be collected, and it is absolutely essential in the country training schools to have, at least, the partial service of a trained nurse in teach-

ing others to be nurses. Such a teacher can be the queen of the miniature hospital, and at the same time, at the option of the physicians, can follow them on their rounds, visiting the bedsides where the student nurses are employed, to teach them there whatever, in her more experienced eyes, is needed.

In times of unusual healthfulness, the superintendent nurse can teach them how to write good clinical reports, how to take the temperature and pulse, and how to read aloud acceptably. The books upon nursing can then be studied. Upon an improvised manikin, bandaging, fomenting, poulticing, can be taught, and upon each other, the student nurses can practise massage.

This is a general outline of what every nurse should be taught. But the profession of nursing has already divided itself into specialties. That of nursing the insane can be taught only in the asylums, for physicians themselves have to look thither for the glimmering light of what little has been discovered about the comforting care of minds deranged. It is a matter for general rejoicing that the training school at the McLean Asylum, the pioneer school of its kind, is already furnishing trained nurses for these saddest cases.

Monthly nursing, however, will always be the chief specialty, and in no other department is trained service so fruitful of comfort and security. I need not set forth again in detail what monthly nurses should be taught, for I have done that in my manual upon the subject, but I want to call attention to the excellent opportunities physicians have in their private practice to train nurses in this branch. And, after once showing the student nurse how to prepare the bed and how to dress the patient, how, after delivery, to remove all traces of the labor, and how, during the confinement, to manage the little details of bathing, giving enemas, catheterizing, bandaging the breasts, etc., the physician's work becomes delightfully lightened; nor only this; his patients, also, are relieved in large part of the usual annoyances and ugly features of midwifery cases.

The general plan of a new kind of training school is no longer visionary. Such a school is already in most successful operation in Waltham, the youngest city of Massachusetts. Its first class has lately been graduated. It is not fitting for me to sound their praises; nor need I here, for they have already won honorable mention in the service of many members of this Society. But as an illustrative case, as a demonstration of the feasibility of the plan, I venture, in closing this paper, to report the history of the Waltham Training School.

The scheme originated in the local meeting of the Fellows of this Society. In the winter of 1885 a meeting was called of all interested in the project. Three lady managers were chosen, to whom all the details of management were entrusted, and to whose assistance the success of the school is greatly due. A class of seven student nurses was formed, three of whom have completed the two years' course of training. During their first year they served only under the physicians connected with the school, and they were obliged to assemble in the classroom on five afternoons of the week for lectures and lessons. During the second year they served also under other physicians and in neighboring towns, until the last month of their course when they were again assembled for reviews and examinations previous to their graduation.

A second class of eight is now in process of training, and soon a third class is to be formed, for which there are already many applicants. The student nurses are paid, beside their board, $9 per month the first year and $12 the second year. And the school charges respectively $7 and $10 per week for their services where the patients can pay; where they cannot, the nursing service like the medical attendance is gratuitous.

The total earnings the first year amounted to only 90 *per cent.* of the expenses, and the management had to draw upon a guaranty fund that had been established to meet any deficiency; but in the second year the earnings exceeded the expenses. Meanwhile the friends of the school have fitted up a dormitory for the student nurses in connection with the private hospital that has grown out of the original scheme.

It is not, however, because of its financial success that claim for attention is made; nor because of the deeply gratifying effect that such training has upon the student nurses in bringing out into perfect blossom that latent womanhood. For in both of these directions great success has been before recorded. Attention is called to the Waltham School because it is felt that a great and general want has been fully supplied. The physicians have only to call, and the nurses come, — to give their orders, and they are obeyed.

In destitute families where hitherto the hard alternatives have been for the physicians to do the nursing service themselves, or to let the cases go from bad to worse through default of proper care, the student nurses now go gladly for day or night service to carry into effect the physician's good intentions. It is in this kind of service that full warrant is found for appealing to the charitably inclined for the little money that is needed to establish such training schools.

THE IMPORTANCE OF EARLY RECOGNITION, DIAGNOSIS AND SURGICAL TREATMENT OF TUMORS OF THE BLADDER.[1]

BY GEORGE W. DAVIS, M.D., OF HOLYOKE.

As the methods of examination of the bladder and the means of investigating its diseases are becoming more numerous and exact, results are likewise becoming more positive and certain; diseased states and pathological conditions, formerly not known to exist, are now recognized and understood. With the present rapid development of surgical knowledge, let us hope that attainment to that degree of expertness which shall secure more satisfactory diagnoses and treatment of these obscure conditions (conditions most distressing and fatal), is near at hand.

It is quite possible that the bladder is more frequently the seat of tumor than is usually supposed.

Abnormal states of this organ are often surrounded with so much obscurity as to make diagnosis difficult or uncertain, and it is not improbable that tumor is sometimes overlooked.

At the present time the literature of tumors of the bladder seems very scant; but the reports of cases, and of the removal of such growths are becoming more frequent.

During the years 1882 and 1883 papers were pre-

[1] Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication by the Society.

sented to the Medico-Chirurgical Society, in London, by Sir Henry Thompson, calling attention to a new procedure for exploring the bladder, which he named digital exploration of the bladder, or external urethrotomy. This consisted of making a central perineal opening into the membranous portion of the urethra, just large enough to admit the index finger, which being introduced was able to explore the cavity of the bladder and its walls, in very much the same manner, and with nearly the same facility, as in customary examinations of the bladder of the female, through the dilated urethra.

Several cases were cited where the objects of the operation were fully realized, the entire mucous surface of the bladder coming within reach of the exploring finger, so that all the knowledge possible to be attained by the sense of touch was readily secured.

Tumors were in several instances discovered; their size, shape, consistency and location readily ascertained; their degree of hardness, manner of attachment, and much other useful information obtained, rendering the possibility of their removal a question for intelligent consideration.

Other cases were cited where only negative information was obtained, nothing important being found, yet the symptoms were either cured or much relieved.

He also pronounced the exploration almost without danger. The operation being quite simple and easily made, and being presented and advocated by a surgeon of such universal experience and unquestionable authority, appears to have at once taken a place among justifiable surgical procedures.

Opening the membranous urethra had long been done in stricture, retention, etc., but the idea of making such an operation merely to furnish a way into the bladder for diagnostic purposes was new — and excited much interest.

It seems that Professor Volkmann, of Halle, at nearly the same time and independently of Mr. Thompson, made the same exploration, and in Germany it is often designated as the Volkmann-Thompsonian operation.

With the description of his method there was given by Mr. Thompson a list of tumors found and removed, some through the wound of exploration.

The attention of the profession being thus forcibly called to the subject, tumors have come to occupy a more prominent place among the possible or even probable causes of intractable and obscure symptoms referable to the bladder, and so a new field for surgical culture has been opened and a new sphere presented for the relief of cases which have heretofore remained unrecognized and been given over as incurable.

It would seem, however, that Thompson's exploratory incision has not met with much favor in France or Germany, the supra-pubic or *sectio alta* being almost always preferred by Continental surgeons. Enlarged prostate and great obesity are conditions which interfere with its successful performance.

The bimanual examination of the bladder, sometimes mentioned in connection with the name of Volkmann, is much relied upon by all surgeons, and should never be neglected in any case of doubt. It is made with one or two fingers of one hand in the rectum, the other hand firmly pressing into the pelvis from above the pubes, the weight of an assistant often being necessary to aid in sufficiently forcing the pelvic contents down upon the examining fingers. An anæsthetic is indispensable in this manner of examination, as it is in examination *viâ* the median perineal incision of Thompson. The bladder must be quite empty, and unless there is much obesity a tumor of any considerable size and consistency can hardly escape discovery.

An encysted calculus which has escaped the sound may be thus discovered.

A paper was read by Dr. Max Nitze, of Berlin, at the Berlin Medical Society, Jan. 5, 1887 (reported in the *Berliner Klinische Wochenschrift* of this year, Nos. 8 and 9), in which he gives a careful resumé of the various methods of examination of the bladder, commenting upon the relative advantages of each, but more particularly describing his own method of exploring the cavity and inner surface of the bladder by the sense of sight.

This is made possible by an ingeniously arranged electric light, so introduced that it may be said to be combined with an endoscope, the inner surface being as distinctly seen as though it were examined piecemeal by the light of day after removal from the body. The bladder is made to contain a certain quantity of transparent fluid, thus opening the folds of the mucous membrane and presenting all portions of the mucous surface to view. The field at once visible is as large as a silver dollar, and is described as much resembling the image of the fundus of the eye when seen with the ophthalmoscope.

By changing the position of the mirror in this instrument or kystoscope, as named by Nitze, the entire surface is readily and quickly seen, and any abnormal condition easily recognized. By the use of cocoaine its use is rendered painless, and no other anæsthetic is necessary. The danger from heat resulting from the lamp in use is overcome by the circulation of a current of cold water.

Nitze cites cases where his method of examination has succeeded in discovering tumors which were removed, and he is confident its more general use would make earlier diagnosis possible, and so save valuable time.

At a meeting of the Medical Society of Berlin, Jan. 19, 1887, Professor Von Bergmann reported a case of tumor of the bladder, describing its symptoms, diagnosis and removal. In this case Nitze demonstrated to the satisfaction of Von Bergmann the practical working of his instrument, the latter speaking of it in terms of much praise, as being easily introduced and not distending the urethra or neck of the bladder more than a large-sized catheter, and in this case not occasioning any hemorrhage. (See *Berliner Klinische Wochenschrift*, No. 6, 1887.)

If we accept the statements of Nitze and Von Bergmann, we shall be forced to believe that most incisions and severe proceedings for purely diagnostic purposes are soon to be laid aside, and the kystoscope is to reveal to the eye of the diagnostician the actual state, the size and shape of stones or tumors being readily seen and appreciated.

The symptoms in tumor of the bladder are such as suggest the presence of stone, stricture, prostatic hypertrophy, or disease of the kidney.

Dysuria and strangury are present in the course of the development of tumor, and are often the occasion of great suffering and anxiety to the patient, their severity depending largely upon the variety and

location of the growth, its size, the length of time it has existed, the extent of the irritation and inflammation, the relative acidity of the urine, and many other obvious conditions. Cystitis is sometimes present in such intensity as to mask the symptoms more directly proceeding from tumor.

Hæmaturia is perhaps the most constant symptom in tumor of the bladder, but this may result from other causes which must be excluded. Hæmorrhage from the kidney is usually attended with attacks of renal colic and other evidences of renal diseases. Stone in the bladder must be excluded, and search with the catheter or sound for stone may discover the tumor, an indefinite something being felt which does not give the positive evidence of stone. The old, long-beaked sound formerly used for exploration of the bladder is now giving place to the short-beaked catheter furnished with stop-cock so that any degree of distention may be secured.

Soft instruments are much relied upon for exploration of the bladder by many surgeons of large experience.

Should clear water recently injected into the empty bladder return tinged with blood, we have evidence that the hemorrhage is vesical. Fresh blood passing at the end of, or immediately after micturition, must come from the bladder or urethra. The possibility of diseased prostate is suggested by this symptom. Much hemorrhage will suggest the presence of a vascular growth, and the bleeding may be out of all proportion to the size of the tumor, death having resulted from the loss of blood from a tumor of the villous variety, scarcely larger than a pea. (See Coulson, page 115.)

Cases may be attended with attacks of more or less profuse hemorrhage, separated by intervals during which the urine is nearly or quite clear of blood, but often the hemorrhage is continuous and never profuse, slowly exhausting the patient.

Shreds of tissue or tufts of the villous growth may be discharged with the urine or caught in the eye of the catheter, and if examined with the microscope may make the diagnosis certain as to the presence of tumor, and the question of its malignancy may be thus decided. Malignant growths are more rapid in their progress, and the urine may contain evidence of their presence in the form of débris.

Continuous hemorrhage not relieved by treatment or rest and the recumbent position, is strongly suggestive of the presence of a neoplasm, either in the bladder or kidney.

M. Guyon, of Paris, calls attention to the frequent presence of varicocele in tumor of the kidney, and also insists upon search for evidence of increased mobility of this organ, which he states is present to such an extent as to be readily recognized by bimanual examination or palpation, balottment being perceptible even in the early stages of such neoplastic formations.

This sign is produced by placing one hand in front of the hypochondrium and exerting with the other slight and quick movements or shocks in the lumber region, this manœuvre sufficing to recognize the mobility of the kidney.

Direct examination of the kidney, however, is acknowledged to be often very difficult, even by Guyon, who claims that in the great majority of cases the diagnosis of bladder tumors can be established without operation, and relies largely upon the presence of hæmaturia as a symptom. He also says that when a simple catheterization is followed by a continuous bleeding of long duration, a tumor may be almost positively diagnosed.

The importance of an early diagnosis should be emphasized, for if the growth be *non*-malignant, the probability of its successful removal is much greater if attempted early, before it has attained to large size or occasioned destructive changes and exhausted the strength of the patient by prolonged hæmorrhage and suffering. If the symptoms are not yet so distressing as to make removal advisable, only good can result from a knowledge of its presence. In malignant growths of the bladder sufficiently advanced to occasion marked symptoms and admit of diagnosis, there can be little hope of a radical cure by operation, and the question to be decided is, Can an operation alleviate the distressing symptoms, and so become valuable to the patient?

M. Guyon has operated upon thirteen cases of malignant growth of the bladder, and reports that the symptoms determining operations were relieved in all. He states that malignant tumors have scarcely attained to the size of a pea before there is infiltration, and it is already too late to hope for radical cure.

Admitting the truthfulness of M. Guyon's statement, it does not weigh against early operation, as the differentiation between malignant and non-malignant cannot be early determined before operation in most cases.

In the February number of the *Journal de Medecine et de Chirurgie* of Paris, of the present year, was reported a case of epitheliomatous growth removed by M. Guyon, the operation being described as radical. It had not returned after six months. In this case the growth was as large as the end of the thumb and situated in the anterior superior portion of the bladder, so being favorable for Guyon's operation, which is always supra-pubic.

The allotted length of this paper will not permit a careful discussion of the various questions involved in the treatment of these cases, but I will in a general way briefly refer to certain points.

No medication is likely to arrest the growth of neoplasms of the bladder, but if there is a possibility of syphilis in the case, the remedies known to act as its antidote should not be withheld. The general condition of the patient being cared for, the treatment must be of a local and surgical nature. Such symptoms as are particularly distressing must receive attention and be met by the usual remedies. An attempt must be made to control the hæmorrhage by rest and the horizontal position, and by astringent injections, of which, solutions of nitrate of silver and the prochloride of iron, varying in strength from one to three per cent., are most preferred. Antiseptic solutions for douching the bladder will be found indispensable.

The question of removal will be ever before the mind of the surgeon fully determined upon giving the patient every opportunity for relief. The cases of successful removal are now sufficiently numerous to make it no longer a question of doubt as to the duty of the surgeon in any urgent case presenting no marked contra-indications to operation. The usual tendency of this condition being to get worse, and after long months or years of increasing suffering to

finally terminate fatally, the surgeon is, in duty to the patient, bound to explore the bladder in such a manner as shall enable him to act intelligently.

If the sound or catheter, with bimanual examination or the kystoscope of Nitze, or such other methods as may be available, fail to make the condition plain, the bladder should be explored by the finger, and the question of choice between external urethrotomy and the supra-pubic operation must be decided upon.

If it is probable that much operative procedure will be required, as in the repeated passage of forceps for the removal of several growths, or a single large one, the higher operation should be at first selected, for its performance would be necessary, notwithstanding the urethra had been already opened, and we can hardly agree with Mr. Thompson in the opinion that the two operations do not add to the risks in the case. But if the urethra has been opened and a growth discovered, the thorough removal of which will necessitate too much manipulation to be safely done through the dilated neck of the bladder, the operator's duty will plainly be to make the high operation without delay.

There may be found in the July number of *Braithwaite*, 1886, a description of a sound invented by Mr. Thompson, which serves to support the bladder under these circumstances. The extremity of this sound is so notched that the surgeon can, while coming down upon it from above, recognize its exact position, and seizing with a hook the wall of the empty bladder can maintain its elevated position during the operations within its cavity.

The technique of cystotomy for the removal of tumor is mainly the same as in operation for stone.

Every case must present its own peculiar features. Several pairs of forceps with blades of varying width should be at hand. The margins of the blades should be slightly rounded to avoid the wall of the bladder.

The spoon of Volkmann is the proper instrument for scraping away such portions as cannot be completely removed with the forceps.

The removal of vascular growths is likely to be attended with much hæmorrhage, and the operator must be prepared for any emergency arising therefrom.

In the event of the tumor or tumors being very vascular in the female, it may be wise to operate through a vesicovaginal opening made for the purpose, but the surgeon should be very guarded in promising its speedy closure.

I have recently had the care of a woman who had tumors of the bladder of recurrent nature, which were several times removed by Dr. W. H. Baker, of Boston, through a vesicovaginal opening. Owing to a continuance of the symptoms and the recurrence of the growths, the fistula was not closed. At the time of my examination, what seemed to be several soft tumors of small size could be felt. At the post-mortem, six weeks later, there was found less of the gross appearances of tumor than I had expected. What had felt to the examining finger like soft tumors, was really a number of collections of villous tufts, very vascular and presenting to the eye, as well as to the finger, a velvety appearance. About one-fourth of the inner surface of the bladder was lined with this neoplastic formation.

Any one examining this specimen must be impressed with the difficulty necessarily attending the entire removal of the growth in a similar case.[2]

This very intelligent patient derived much relief from hot douches; but she learned by experience that they would, if too persistently used, aggravate the symptoms they were accustomed to relieve.

As will be remarked, no reference has been made to the pathology, and no attempts at a classification of tumors of the bladder — only certain points have been touched upon. Sufficient, however, may have been said to suggest the possibility of tumor to the mind of some one who may be searching for an explanation of certain obscure bladder symptoms.

GRINDER'S CONSUMPTION.[1]

BY FRANCIS J. CANEDY, M.D., SHELBURNE FALLS, MASS.

THERE have been employed in the grinding-room of the Lamson & Goodnow Cutlery Company, at Shelburne Falls, from thirty to fifty men and boys, for the past twenty-five years, giving an average of about forty.

During the past ten years there have died with chronic disease of the air passages twenty-three of these grinders. Seven Irish, seven English, six American, and three Germans, of which five were between sixty and seventy years of age, eight between fifty and sixty, three between forty and fifty, five between thirty and forty, and two between twenty and thirty, and there are now sick confined to the house, three, one English between sixty and seventy, and two Germans, one fifty-five years old, and another about thirty-five. There are still grinding five, in whom the disease is known to have made considerable progress.

This amount of fatal disease of respiratory organs in such a limited number of men, the majority of them considerably past the age at which consumption is most common, points positively to their occupation as a predisposing, if not an exciting cause, of no small importance, and my experience among these cases for the past ten or fifteen years, in the sick room and by the post-mortem table, has convinced me that the name of "grinder's consumption," given the disease by the laity, is a proper one.

That we all inhale no inconsiderable amount of dust in respiration is well known, and that certain occupations, as mining, wood and metal polishing, etc., cause the workers to inhale an atmosphere so loaded with dust of an irritating character as to produce specific lesions of the bronchial tubes and lungs, has become so well established that all the newer books upon diseases of the respiratory organs, treat of this condition under the somewhat hard name of *pneumonokoniosis*, a classification of which is based upon the nature of the dust inhaled, as *anthracosis* in coal miners, *siderosis* in iron and metal polishers, *tobacosis* from tobacco dust, or from the avocation of the sufferers as grinder's consumption, Potter's consumption, mason's and millers' lung. Of all these forms, none seem more certain or fatal in its effects, than the grinder's. Peabody, in some investigations made at Sheffield, England, making the average period they are able to continue their work thirteen years.

[1] Read at the May Meeting of the Franklin District Medical Society.

[2] The specimen was exhibited to the Society.

The morbid anatomy of grinder's consumption, as I have studied it in three post-mortem examinations, I have found as follows: The bronchial lesions are those of chronic bronchitis, with thickening of the bronchial mucous membrane, associated with ulceration and bronchial dilation, forming bronchiectatic cavities. These cavities, which are a marked feature in some cases, are said to be caused by a combined softening of the bronchial tissues, with traction from without by the newly-formed fibrous tissue.

Fibroid Phthisis. — The bronchial glands are enlarged, some of them to size of small walnuts, gray and gritty on section. Gray nodules of cretaceous matter, from the size of a pin's head to that of a pea, are found disseminated throughout the lungs. But the most distinctive lesions are patches of indurated lung tissue, the predominant form of pulmonary change being of the fibroid type: hardened districts of advanced cirrhosis occur, measuring two inches and upwards in length, breadth and thickness. On section they are gray, tough, and leathery, and covered in by a thickened and adherent pleura. In all of my cases I found quite large and irregular-shaped cavities in the base and posterior portions of one or both lungs, into which, and in some quite through the diameter of which passed bands of this same fibrous tissue.

In one case this process of cirrhosis and breaking-down of lung tissue, had so interfered with the circulation as to produce gangrene, and in several cases in which no post-mortem was made the atmosphere of the sick room has been intolerable for days from this same gangrene of lung. This fibroid induration of lung tissue is quite extensive, is found in both lungs, involving one-half or more of their entire substance, in some cases, and shades gradually into the healthy tissue.

The contraction of this new growth not only destroys the elasticity of the lungs, but actually constricts the areas of intervening healthy lung. The normal capillary circulation is, of course, seriously interfered with, or destroyed in those cirrhotic patches, and in proportion to their extent the entire pulmonary circulation becomes obstructed, and the right ventricle and the venous system distended, this condition of course, being greatly aggravated by exertion, thus accounting for the intermittent pulse, dyspnœa, dilated veins, and cold extremities which are so prominent in some very chronic cases. The course of these morbid processes is insidious and slowly progressive, and as in other forms of lung disease, is more or less modified by inherited tendencies, and such influences and habits as diminish vitality, or affect personal hygiene, especially the use or abuse of alcohol, three-fourths of my cases having been hard drinkers.

The earliest objective symptoms is cough, especially recurrent in winter, accompanied by a somewhat frothy and stringy expectoration, chiefly dependent upon the bronchitis, which is undoubtedly the first morbid process in grinder's consumption. Soon shortness of breath upon exertion, as walking up hill, is complained of, but an examination of the patient shows him to be without fever, and when quiet with no increased frequency of the pulse; this lack of all fever, even when pulmonary lesions are quite advanced being one of the strong points in the differential diagnosis between grinder's and tubercular consumption.

Cases frequently go on for years with no especial disturbance of health or evidence of the lesions taking place, excepting the cough and the inability to fully inflate the lungs, owing to the chronic interstitial inflammation going on in them. Sooner or later, however, this interstitial inflammation reaches a point in some portion or portions of the lungs, which not only destroys its ærating function, but so interferes with its nutrition, that the tissue begins to break down in a gangrenous or purulent process, and it is frequently not until this stage has been reached, that the case comes into the hands of the physician. We now find the man decidedly ill, with fever, coated tongue, entire loss of appetite, often a terrible cough, which produces great suffering from a circumscribed pleurisy, and if we have not been acquainted with cases of the kind in the past, we will probably make the mistake of thinking the trouble more acute than it will prove to be.

In several of my cases, exposure to cold and wet, especially while under the influence of drink, has served to result in a broncho-pneumonia, the starting point of the breaking up of the lung tissue, from which the man succumbed in from six months to two years. That this is liable to occur in lungs previously healthy we well know, but that it is much more likely to occur in grinder's is beyond question.

The patient is usually confined to his bed from ten to twenty weeks in this first attack, with quite constant fever, though with a temperature rarely above 102° and pulse from 80 to 90, entire loss of appetite, and progressive emaciation. After a month or six weeks an abscess will be sufficiently matured in the portion of lung producing the immediate mischief to find its way into a dilated bronchus, when the patient begins to expectorate large quantities of purulent matter, the fever begins to subside, the tongue cleans, an excellent appetite often follows, under the influence of which some flesh and considerable strength may be regained. The patient begins to sit up, and if it be warm weather, perhaps goes out of doors somewhat, though considerable cough and a profuse purulent expectoration usually remain; the matter probably coming partly from the breaking down of tissue from the walls of the abscess cavity, and partly from the bronchitis and bronchiectatic cavities before mentioned. But, as one might suppose from the pathology of the disease, this period of improvement never advances very far, though two or three of my patients have lived nearly two years after first coming into the bed, in pleasant weather dragging their emaciated forms about the streets, by the aid of a cane, and one patient doing considerable light gardening for one summer. Those who have the most courage to go out of doors live longest, but the most sanguine and determined succumb in the end to the inevitable exhaustion.

Two cases in the convalescent stage of one of these pulmonary abscesses died from hæmorrhage, blood bursting in a large stream from mouth and nose, destroying life almost instantly, from erosion of some large vessels. Aside from these cases I have never seen hæmorrhages.

All cases do not run this course characteristic of the formation of pulmonary abscess, though I think the greater number do. The progress of some cases is exceedingly slow, and covers a period of many years, some under my observation living ten years or more, after being compelled to leave the shop by their cough, most of the time in chronic invalidism, and dying at

last from the exhaustion dependent upon pulmonary disease. As to the treatment of grinder's consumption, little can be said that does not apply in the management of other chronic diseases of the air passages. Of course the first and most important step is to remove the patient from the influence of the exciting cause, namely, the atmosphere of the grinding room, but this, even when done early in the disease, though undoubtedly greatly prolonging life, often fails to save the patient, so persistent are these fibroid changes in the connective tissue of the lungs when once commenced. I have known three deaths from this disease to occur in men who had not worked at grinding or in a shop at all for ten years or more, and for the greater part of the time being considered able-bodied.

In a disease in which induration of tissue and new growth play such an important part as in this, the iodides, owing to their capacity for promoting absorption, naturally suggest themselves to us, but I have never observed any positive benefit from those that I have employed, the potassium and ammonium salts, though I admit, that owing to disturbance of the stomach I have never pushed them very far. For the cough and to promote expectoration of morbid matter, I think much of muriate of ammonia in a mixture combined with the carbonate, spirit of chloroform and licorice to cover the disagreeable taste of the ammonia. In many cases, owing to dilations and contractions of the bronchial tubes, it is very difficult for the patient to clear his lungs of the accumulations of muco-pus, which becomes thickened and blocked up in some of the sacculated bronchial cavities, giving rise to prolonged and exhausting paroxysms of very severe cough. In this condition, this combination of ammonia with a little spirit of chloroform, is more effective than anything else that I have ever tried.

Aside from the usual hygienic management of wasting diseases, as an abundance of nutritious food, large and sunny rooms, particularly sleeping rooms, all the exercise possible in the open air, bathing, cold sponging, etc., nothing is of so much value as the systematic and prolonged use of the pure cod-liver oil. If the prejudice that patients have against it, owing to the fact that most people who take it do not get well, can be overcome, and they coöperate intelligently and earnestly with their physician, their lives may be prolonged from one to three years by its use.

Cod liver oil being valuable as a nutrient, rather than as a medicine it is often given in doses too small to amount to much. Commencing with a teaspoonful, if no more can be digested at first, the patient should get up to from two to three ounces a day in six or eight weeks, this quantity to be continued for months. To quicken the weak and failing appetite, I have found nothing better than a combination of syrup of hypophosphites with dilute phosphoric acid and strychnia, taken before meals. But in spite of all treatment the inevitable tendency of the disease seems to be toward a fatal termination, and I have never seen any recoveries.

— Dr. Louis Heitzman, of New York, has had good success in aborting furuncles by the local use of an eight per cent. salicylic acid plaster, or salve. For the former, he uses empl. saponat. ℥ii, empl. diachyli. ℥i, and acid salicyl. ℥ii. For the basis of the salve, he prefers unguentum aquæ rosæ.

REPORT OF PROGRESS IN GYNÆCOLOGY.

BY F. H. DAVENPORT, M.D.,
Assistant in Gynæcology, Harvard University.

USES OF IODOFORM GAUZE IN GYNÆCOLOGY.

FRITSCH[1] uses nothing but iodoform gauze for tampons. For this purpose, he employs it of the strength of ten per cent., and this can be made stronger by the addition of iodoform powder or iodoform glycerine. The gauze is prepared in long strips, plaited like a fan, which are introduced into the vagina, and can easily be removed by the patient. It remains antiseptic from four to six days, longer than tampons soaked in five per cent. carbolic acid.

Fritsch finds this gauze of especial value in the palliative treatment of carcinoma, and, in contra-distinction to the method by irrigation, calls it the dry method. It more surely relieves the foul discharge, hæmorrhage, and pain, so that patients believe they are entirely well. Cases of cancer which had been sloughing for months were kept odorless until death occurred. In several cases, the uterus had been reduced to a mere shell, the inner surface of which was covered with abundant, somewhat anæmic-looking granulations.

Fritsch first curettes the diseased portion, then applies the Pacquelin cautery, and then, to control hæmorrhages and diminish the secretions, fills the cavity with iodoform tannin powder. A tampon is then placed in the vagina, which remains five or six days. Subsequent treatment consists in applying, twice a week, iodoform tannin tampons, or when a tendency to hæmorrhage continues, iodoform glycerine tampons, filling the cavity completely.

The author has also had good results with tamponing the uterus with iodoform gauze after the removal of sloughing portions of the placenta, or intra-uterine polypi. He has further used it in the treatment of endometritis of body and neck, and for the introduction of medicaments into the uterus; also to keep the edges of the wound apart in the operation of discission.

In cases of opening the peritoneal cavity, Fritsch has, for three years, used the gauze, instead of the drainage-tube. He has introduced a specially ingenious use of the gauze in the after-treatment of severe laparotomies, where there were inflamed or suppurating surfaces to be rendered aseptic, or in cases of extensive adhesions to control hæmorrhage. Such surfaces he first sprinkles with iodoform, and then places several layers of folded gauze tightly over them, bringing one end out of the abdominal wound. The capillary drainage is complete, and the disinfection within the abdominal cavity is secured as well by shutting the wounded surfaces off from the rest of the peritoneal cavity, by the rapid glueing together of the intestines.

In spite of his free use of iodoform, Fritsch has never seen a case of iodoform-poisoning.

TRACHOMA PUDENDORUM.

Prof. I. M. Tarnovsky[2] made an interesting communication on this subject before the Obstetrical and Gynæcological Society of St. Petersburg. As is well known, Professor Sattler has shown that the secretion from a trachomatous conjunctiva invariably contains micrococci, which differ from ordinary gonococci only

[1] Sammlung Klin. Vorträge, No. 288. Reported in Cent. für Gyn., No. 11, 1887.
[2] London Medical Record, April 15, 1887, from Russian Journal.

in size. Their cultivation and inoculation always produce true trachoma. He also found that when the gonorrhœal pus from the mother's genitals is introduced into the child's eyes, it gives rise either to purulent conjunctivitis or to trachoma. In view of these facts, Sattler came to the conclusion that trachoma had a gonorrhœal origin. Tarnovsky says that his extensive observations have shown that there undoubtedly exists a true "trachoma pudendorum."

The appearances found are on the mucous surface of the labia majora, and especially of the upper commissure of the labia nimora, and consist of small grayish or yellowish nodules, surrounded by a slightly hyperæmic halo. These, in time, grow paler, though they remain raised, and later, form groups, measuring three to four by one-and-one-half to two centimeters. When examined by the finger, they feel somewhat harder than the surrounding tissues, and as though there were sand under the mucous membrane. There is crepitation on scratching with an instrument, and the spots do not bleed easily. Without treatment, they may exist for years, disappearing from one spot to appear at another, and in old cases, the patch may become almost cicatricial.

The microscopical examination shows an "epitheliomatous papilloma," in the cells of which are enormous numbers of micrococci.

As regards the differential diagnosis, Professor Tarnovsky thinks the trachoma might be mistaken chiefly for milium, erosion of the papillæ, or granulating ulcer. The essential symptom is itching, "felt deeply within the vaginal entrance." It decreases from pressure on the genitals, application of cold and smooth bodies, increases at night in a warm bed, and, especially when situated near the clitoris, causes sexual desire, with tendency to masturbation. Sometimes there is no pruritus, but only an increase of feeling and excitement during coition. They sleep always on one side, with their thighs firmly pressed together, and drawn up to the abdomen. They like to sit or ride astride, or to drive in a shaky vehicle, with soft, elastic, springy cushions. Nothing of the kind is observed in cases of pruritus from other causes. It is most frequent in prostitutes, then in married women who have at some time had blenorrhœa, or whose husbands have had gonorrhœa, rarely in young girls or old women.

The best treatment is a net-like, superficial scarification, and subsequent painting with a solution of nitrate of silver, or sulphate of copper or zinc, or with a five per cent. solution of carbolic acid, or a solution of corrosive sublimate. Professor Tarnovsky considers trachoma pupendorum infectious, and thinks it alone may produce gonorrhœal urethritis in men.

STATISTICS OF TOTAL EXTIRPATION OF THE UTERUS FOR CANCER.

Dr. A. Martin [3] has collected statistics of the cases of total extirpation of the uterus operated on in his clinic, with reference to the radical cure. Of sixty-six cases operated on from 1880 to 1886, eleven, or eighteen per cent., died as a result of the operation. These cases are, of course, of no value as regards the question of a return of the disease, nor should the cases operated on in 1886 be considered. That leaves forty-four cases operated on before the end of 1885, where, microscopically, the whole of the disease seemed to be removed. Of these, twenty-nine per cent. had showed a return, and seventy-one per cent. were, at the time of writing, free from disease.

Separating these cases according to the three most common localities, we find that there were three cases of cancroid of the portio vaginalis, of which one showed a return, twenty-eight of carcinoma of the neck, with eleven cases of return, and thirteen of carcinoma of the body, with only one return.

A table is also given of twenty-eight cases of total extirpation, where from the first a radical cure was not to be expected. All had either died or shown a return of the disease, except one operated on in September, 1886, and the fate of one other could not be ascertained.

[3] Berl. Klin. Woch., No. 5, 1887.

ON CASTRATION FOR EPILEPSY.

Dr. J. Schramm,[4] after referring to all the cases of epilepsy treated by castration to be found in the literature, asks whether there are cases of epilepsy without pathological changes in the genital organs, in which the bringing about the menopause, has alone been able to effect a cure.

He recognizes the gravity of removing sound ovaries, and says that only the clearest causal connection between the menstrual process, and the epileptic attacks would justify the operation. He then gives the histories of two cases of a severe form of epilepsy intimately associated with menstruation as regards time of occurrence and intensity. Where other means tried through years had failed, and where the removal of, in the one case perfectly sound ovaries, and in the other, ovaries normal except for a cyst the size of a cherry in the right, was followed after a short interval by complete cessation of the epileptiform attacks. For the interesting details of these cases, the reader is referred to the original.

[4] Archiv. für Gyn. xix, Band. Heft, III.

SIXTY TOTAL EXTIRPATIONS OF THE CANCEROUS UTERUS.

Fritsch [5] begins this interesting article with a reference to the rapidity with which the operation for the total extirpation of the uterus has gained a footing in Germany, and says that the time is passed when one need be proud of a series of good results as regards the immediate operation, and that the question now should be, "What is definitely gained by the operation?"

Fritsch found in Breslau a large per cent. of cases of cancer in young persons, six per cent. between twenty and twenty-five, nine per cent. between twenty-five and thirty, and the same between thirty and thirty-five. He cannot subscribe to Ruge's division of cancer of the uterus into three forms; at least he doubts that the several varieties can be always strictly differentiated.

As between the high amputation and total extirpation, Fritsch performs the latter almost exclusively. His objections to the former are the greater difficulty in removing the uterus from which the cervix is gone, and the frequent narrowing of the cervical canal and os after high amputation. He considers, on the other hand, total extirpation an easier and less bloody operation. Only when there is a very small nodule of disease which has been early detected, does he perform the high amputation.

The conditions under which he would perform total

[5] Berl. Klin. Woch., No. 3, 1887.

extirpation, are, first, mobility of the uterus. The presence of thickenings at the side he considers no contraindication, provided they do not fix the uterus, as they are not necessarily due to an extension of the disease. The apparent size of the cancerous growth is of minor importance, for often a large tumor, filling the vagina, is really confined to the lowest part of the vaginal portion.

He opposes preparatory operations such as removal of portions of the tumor by the knife or curette, and considers it theoretically at least probable that such procedures would favor the passage of cancer-cells along the lymph vessels, and thus render a return of the disease more probable.

The article then explains, in quite minute detail, the advantages of his method of operating, which has been described by Bokelman in a former number of the *Archiv für Gynakologie*. Its peculiarity consists in his first dividing the attachments of the broad ligaments to the uterus, then the anterior cul-de-sac, and lastly posteriorly. If the ovaries and tubes are easily reached he removes them, especially in young women. If the uterus is found to be so enlarged by the presence of fibroids as to render its removal per vaginam impossible, he does not hesitate to perform laparotomy. The bladder and uterus are very seldom wounded.

The results of his sixty cases are as follows: ten per cent. died in the clinic from the immediate effects of the operation, fifty per cent. were either suffering from a return of the disease at the time the article was written, or had already died, and forty per cent. showed no signs of return after an interval of from ten months to three years and two months.

The author does not consider the percentage of recoveries as a definite result, as the time since operation is too short, still as relapses are by far most common during the first year a fair proportion may be considered definitely cured. In conclusion, he says, that if we ask what is of the greatest importance in improving the prognosis, the answer is, "The assistance of the general practitioner. The earlier the disease is discovered the surer can it be cured."

DIAGNOSIS OF BEGINNING CARCINOMA OF THE CERVIX UTERI.

Dr. Stratz [6] in an article on this subject says that the perfected technique of the operative treatment of cancer of the uterus has rendered its cure possible, provided it is seen at a sufficiently early stage. It is, therefore, important to be able to make a diagnosis early. Even if certain symptoms, as profuse menstruation, leucorrhœa, pain, hæmorrhage following coition, with the exclusion of other causes point to carcinoma, still the difficulty of distinguishing beginning cancer from erosions will always exist. Ruge and Veit recommend the excision of a piece of the erosion for microscopical examination, and by this means making a diagnosis. But even microscopically, it is possible to recognize certain characteristic appearances which are peculiar to carcinomatous erosions. He gives four particular important signs:

(1) The diseased surface is everywhere sharply separated from the sound tissues; it nowhere gradually changes from one to the other.

(2) A difference in level between the diseased part, and the healthy can always be recognized.

[6] Zeit. für Geb. Med. Gyn., xiii, 1, 1886.

(3) The cancerous portions have always a yellowish tint.

(4) The malignant spots show small, yellowish-white, glistening raised points, at least in certain places.

THE INTRA-UTERINE GALVANO-CAUTERY.

Dr. Landowski [7] recommends the use of the electro-cautery in membranous dysmenorrhœa. He thinks the uterine disorder is frequently a cause of the general cachexia and debility which we usually find in women suffering from this disease. He has applied the galvano-cautery in two cases, after thorough dilatation of the os, the time chosen being five or six days after the cessation of menstruation. In one of the two cases the result was a complete cure; in the other the pain was relieved, but a small piece of membrane the size of a penny continued to be expelled at each menstrual period. This was, in his opinion, due to a small portion of the uterine wall, having escaped the action of the cautery.

M. Apostoli has also employed the intra-uterine cautery in a large number of cases of chronic neuritis and endometritis, with great success. It is not necessary to confine the patient to bed during the intervals between the applications, and improvement, as a rule, follows after a few sittings. He prefers this method over that of scraping with a sharp curette, as being capable of exact graduation, of being more easily localized, and of not being so instantaneous. The result of the cauterization is to cause the formation of a new and healthy mucous membrane.

[7] Med. and Surg. Reporter, Abstract in Am. Med. Digest., February 15, 1887.

Clinical Memorandum.

A COMPARISON OF SOME CASES OF CATARACT EXTRACTION, WITH AND WITHOUT IRIDECTOMY.[1]

BY CHARLES H. WILLIAMS, M.D.

At the present time, there is a tendency among operators to return to an older form of cataract extraction, in which the lens is removed without making an iridectomy, and these cases are reported in order to compare the results of a few operations with and without the removal of a piece of the iris, done as nearly as possible under the same conditions, and by the same operator. In the operation, as proposed by Daviel, the corneal wound was made downward, and the flap included more than one-half of the corneal circumference. Later, the size of the flap was reduced, and it was made upward, so as to be more protected, and kept in position by the upper eyelid. There was no iridectomy, and, after incising its capsule, the lens was made to find its way through the pupil by using gentle pressure over the lower part of the eye. The principal danger in this operation was the tendency for the edges of the flap to suppurate, and this process often extended to the rest of the cornea, so that some ten per cent. of the cases were lost from this cause, for the wound was so large that the nutrition of the cornea was interfered with. It was difficult to keep the flap

[1] Read before the Boston Society for Medical Improvement, May, 1887.

well in place during the healing process, and pathogenic bacteria found here a good soil for development. In order to avoid the suppurative danger, and to give an easier exit to the lens and its cortical fragments, Von Graefe proposed his operation, in which the cut was placed in the sclera, just above the cornea, and the upper part of the iris was excised before removing the lens.

This procedure reduced the cases of corneal suppuration to about two per cent., but the after-effects were not always satisfactory, for, apart from the optical defect caused by a large iridectomy, there was often irritation, or even sympathetic inflammation, caused by the proximity of the wound to the ciliary region, or to the incarceration of portions of the iris in the cicatrix. This led to a diminution in the size of the iridectomy, and to placing the wound more nearly in the sclero-corneal junction. In the operations now proposed, of which that of De Wecker may be taken as a type, the iridectomy is omitted, the wound is made to include the upper third of the corneal margin, and some form of antisepsis is used. He generally employs a solution of cocaine, with a small amount of corrosive sublimate, for an anæsthetic, washes the eyelids carefully with a solution of boric or salicylic acid, or the sublimate, carefully disinfects the instruments, and, after the operation is completed, covers the wound with a narrow layer of fine iodoform powder, drops a little eserine solution on the conjunctiva, to contract the pupil and diminish the danger of hernia of the iris into the wound, and closes the eye with a salicylated dressing.

In my cases, the corneal wound included a little more than one-third of the corneal circumference, the capsule was freely incised with a T-shaped opening, and no iridectomy was done. The anæsthetic was cocaine, two per cent., made up in a five per cent. solution of boric acid; and before operating, the conjunctiva and lids were thoroughly washed with a solution of iod-hydrargyrate of potassium, 1 to 10,000, and in my later cases, 1 to 5,000 has been used without irritation. This salt was chosen as a result of some experiments made by Dr. Miguel, who showed that the minimum amount of disinfectant required to prevent fermentation in a litre of sterilized beef-broth was: biniodide of mercury, 0.025; carbolic acid, 3.; bichloride of mercury, 0.070; boric acid, 7.5.

The biniodide (red iodide) of mercury is, however, very insoluble in water, and in order to use it, Panas has prepared a solution of biniodide of mercury 0.05, alcohol 20.00, water 1,000.00, which gives a strength of the salt of only 1 to 20,000, and, on account of the alcohol, seems to me a little more irritating than the solution used in these cases. The biniodide of mercury is quite soluble in solutions of the iodides, and, by mixing a given amount of this salt with a slightly greater amount of iodide of potassium, a solution can be readily made in water, which, when evaporated, gives the yellow iod-hydrargyrate of potassium.

When this salt is dissolved in water, a decomposition takes place, and we then get again merely a solution of the red iodide of mercury in the iodide of potash, so that, for practical purposes, instead of using the compound salt, which is not often kept by the apothecaries, it answers just as well to order:

Hydrarg. iod. rub.		02
Potass. iod.		05
Aquæ	200	00

which gives about a six-ounce mixture, of 1 to 10,000 of the mercurial salt.

To return to the operations: after the lens has been extracted, eserine was used in two cases, where there was a decided tendency for the iris to prolapse into the wound. In one case it retracted well, but in the other, No. 2, it was necessary to excise a small portion of the iris before bandaging the eye, and here it was found that the semi-fluid vitreous pressing behind the iris had kept it forced into the wound. In the other cases, the iris retracted well without eserine after the extraction of the lens, and no hernia formed in the course of the healing.

It has been stated by De Wecker that extreme care is needed after the operation to keep the patient perfectly quiet, and for this reason, he is said to decline to do this form of operation during the summer months; but as all the cases reported were done during June, July, and August, and the details of No. 8 show a most unusual amount of restlessness on the part of the patient, it would seem that this form of operation need not be declined for this reason, especially as, under the same conditions, it has given me better results than the modified Graefe.

In order to compare the results obtained by the two forms of operation, with and without an iridectomy, the average length of treatment and result of my Graefe operations done during the summer months for the previous five years is compared with the results from the modified-flap operations done last summer, much to the advantage of the latter. The hot, and presumably the least favorable, months of the year have been taken for comparison, since the conditions were there equal, and because, on account of my service at the Eye and Ear Infirmary during the summer, a number of cases could be collected.

Modified Graefe Operations (with iridectomy).

Time of Operation.	Average Length of Treatment. Days.	Average Resulting Vision.
June, July, August, 1881.	18.6	0.16
June, July, August, 1882.	26.	0.18
July, August, 1883.	17.3	0.20
July, August, 1884.	21.8	0.13
July, August, 1885.	15.3	0.17
	For the five years, 19.8	For five years, 0.17

Modified Flap Operations (without iridectomy).

June, July, August, 1886.	13.75	0.39

From this, it appears that the average length of treatment in the later operations has been reduced from 19.8 days to 13.75 days, and that the resulting vision has been increased from $\frac{1.7}{100}$ to $\frac{3.9}{100}$. Of course, the number of cases here mentioned is too small to warrant our drawing any conclusion as to the general superiority of one form of operation over the other, and in the first series, no antiseptic was used, whereas, in the last, a partial antisepsis was tried. Yet, with this exception, the cases were all done under the same conditions, and by the same operator, and they are reported in the hope that other surgeons will give comparative figures which may throw some light on this interesting question. The details of the cases are appended:

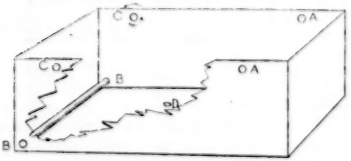
EIGHT CASES OF EXTRACTION OF SENILE CATARACT BY A MODIFIED FLAP OPERATION.

No.	Sex. Age. Health.	Duration of Cataract. Functional Examination.	Operation. Convalescence. Duration of Treatment.	Vision.
1	Male. 72 years. Good.	4 years. Normal.	June 5, 1886. O. D. Normal operation and convalescence. Eye first opened on the seventh day. Parts in good position; wound well healed. Under atropine, the iris was found to be adherent to the capsule at several points. Pupil dilates irregularly. 14 days.	June 19, 1886. $\bar{c}+12.D.V. = 0.2$ July 17, 1886. $\bar{c}+10.D.V. = <0.5$ Aug. 18, 1886. $\bar{c}+10$ D.V. $= 0.8$ Reads Sn 0.5 $\bar{c}+13.D.$
2	Male. 41 years. Good.	3 years. Normal.	June 8, 1886. O. S. After the extraction was completed, a hernia of iris into the wound, which eserine would not reduce. Iridectomy followed by a small loss of semi-fluid vitreous. Eye first opened on seventh day. Parts well healed, and in good position. 12 days.	June 20, 1886. $\bar{c}+9.D.V. = 0.4$ July 22, 1886. $\bar{c}+10.D.V. = 04.$ Reads Sn 0.5 $\bar{c}+14.D.$
3	Female. 72 years. Fair.	Normal.	June 23, 1886. O. S. Normal operation and convalescence. 16 days.	July 9, 1886. $\bar{c}+11.D.V. = <0.2$ July 28, 1886. $\bar{c}+10.D.V. = 0.2$ Reads Sn. 1.25 with $+15.D.$
4	Male. 71 years. Good.	Normal.	July 17, 1886. O. S. After extraction, a tendency to prolapse of iris controlled by eserine. Eye first opened on sixth day. Wound well healed; central movable pupil. 12 days.	July 29, 1886. $\bar{c}+10.D.V. = 0.2$
5	Female. 62 years. Good.	Normal.	July 21, 1886. O. D. Operation normal. Eye first opened on sixth day. Pupil drawn a little upward by attachment of upper part of iris at periphery to the wound. Slight iritis. 20 days.	Aug. 10, 1886. $\bar{c}+11D.V. = 0.25$ Aug. 19, 1886. $\bar{c}+11D.V. = 0.3$
6	Male. 61 years. Good.	4 years. Normal.	August 1, 1886. O. S. Normal operation and convalescence. Eye first opened on sixth day. Wound well healed; parts in good position. Small amount of capsule in pupil. 12 days. February 16, 1887. Capsule has cleared from pupil.	Aug. 13, 1886. $\bar{c}+11.D.V. = <0.3$ Feb. 16, 1887. $\bar{c}+12.D.V. = 1$ Reads Sn. 0.5 with $+16.$
7	Male. 70 years. Good.	1 year.	August 4, 1886. O. S. Patient rather uncontrollable. After corneal cut was finished, patient contracted the muscles of eyeball, and forced out a small amount of semi fluid vitreous. Lens, at same time, displaced downward. Extracted with a scoop. Patient removed bandage on the third day, and appeared demented. Friends removed him on the tenth day, saying that he was often out of his head. 10 days.	Aug. 14, 1886. $\bar{c}+11.D.V. = 0.1$
8	Male. 55 yrs. (?) Poor.	6 years. No functional examination, as cannot communicate with patient, on account of absolute deafness and double cataract.	August 25, 1886. Operation normal. During afternoon after operation, took off his bandage several times, and refused to stay in bed. Cannot give him any directions, on account of his deafness. Twenty-four hours after the operation was up and dressed, with the bandage pushed to the top of his head. Wound entirely closed. Anterior chamber re-established, and some flakes of cortical floating in the pupil, and in front of the iris, at lower part of anterior chamber. No attempt was made to continue the bandage, on account of the uncontrollability of the patient. Convalescence normal. No re-opening of wound, no pain, very little redness of eyeball. Patient refused to stay in bed, and room was kept dimly lighted, to prevent his running into the furniture. When discharged, had some capsule in pupil. 14 days.	Sept. 8, 1886. $\bar{c}+10.D.V. = <0.1$ Sept. 15, 1886. $\bar{c}+10.D.V. = 0.1$

New Instruments.

A SIMPLE APPLIANCE FOR ROLLING GYPSUM BANDAGES.

BY HORACE G. WETHERILL, M.D., OF TRENTON, N. J.



IN the issue of the JOURNAL of April 28, 1887, there is a description of a simple box for rolling dry gypsum bandages, and as I have had in use for five years a very simple box devised by myself which has not been described and has the advantage of easy construction by any handy man with few tools in a few minutes, many of your readers will be able to make and operate it for themselves.

It is made from a cigar box of the usual size, and enough small rod iron or heavy wire to make two cranks and one guide for the bandage to roll over.

Holes were made in the box at A and A, B and B, C and C, and the guide is placed through those at B, in the lower corner of the box.

With a common screw (D) or screw eye the box is firmly screwed through its bottom to a board or table.

The bandage is then rolled on the crank placed through the holes A A, and after all is on that is desired or that the spindle will hold, the end of the bandage is led under the guide B B, and started on the crank placed through the holes C C, so that the crank may be turned in the direction indicated by the arrows.

Now plenty of plaster (the coarser the better) is put on the bandage between the guide-rod B and the spindle A A, and with the left hand on the roll at A A, to regulate the tension, the crank C C is started with the right hand; this carries the plaster down against the rod B B, which rubs the open meshes of the cloth full as the plaster is rolled over and over till all is taken up and more is needed. Plenty of plaster should be kept on the descending cloth, and it can be made to take up as much or as little plaster as the operator pleases, by regulating the speed of the bandage; all excess falls off as the bandage rises over the crank C C, if this is turned in the right direction.

I have made bandages with plaster in this way in my office with only a newspaper under the box to catch the droppings, for five years, as I said, with no dirt or flying plaster off the paper and only the plaster on my hands that came from taking the completed bandage off the spindle by a few reverse turns and pressure against the side of the box. My bandages are always satisfactory and set well, as I am careful in selecting good plaster, and use a very open scrim of only about twenty-eight or thirty threads to the inch.

I will gladly give any reader further information about this box if he will take the trouble to write me, as this sketch is hastily written and I am in doubt about its being perfectly clear, and will also be pleased to hear from any who find it of use, and a means of saving one of those little expenses we are so often called upon to meet.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

F. M. BUCKINGHAM, M.D., SECRETARY.

MAY, 1887, the President, DR. O. F. WADSWORTH, in the chair.

DR. C. H. WILLIAMS reported

A COMPARISON OF SOME CASES OF CATARACT OPERATION, WITH AND WITHOUT IRIDECTOMY.[1]

DR. WADSWORTH said that he thought Dr. Williams had emphasized too much the difference in the amount of sloughing in the old flap-operation and in Von Graefe's linear operation. If his memory served him, Von Graefe's own flap-operations, when compared with his own linear operations, showed by no means the difference in percentage of sloughing that Dr. Williams had stated as generally existing. Then the modern idea of sloughing is that it is an effect of sepsis, and this should be remembered when comparing the results of a method with antiseptic precautions with those of another method without antisepsis.

It is yet to be proved how far the new operation is to be trusted to give success with a round pupil. So far, all admit that prolapse of the iris, which cannot be replaced, occurs not very infrequently. If this happened at the time of operation, iridectomy may be done then; if it happen later, it is often impossible, even by iridectomy, to prevent the healing of the iris into the wound — a mischance of some moment. Again, the amount of vision possible with iridectomy is as good as can be expected with a round pupil. Dr. Wadsworth had more than once obtained vision better than one, by the modified Graefe operation.

The original operation of Von Graefe did go too far toward the ciliary region, and did sometimes excite sympathetic inflammation. As modified, it was less dangerous in this respect, but sympathetic inflammation had occurred with the earlier flap-operation, and will occasionally occur with any operation.

Dr. Wadsworth believed the new operation must still be considered *sub judice*. Dr. Gruening had stated that De Wecker himself performed iridectomy during the summer months, believing it to be safer.

DR. CHARLES F. FOLSOM read a paper on the

EARLY SYMPTOMS OF GENERAL PARALYSIS.[2]

DR. WEBBER said that the paper touches one of the most important points in mental medicine. He supposes that the early symptoms may be summed up as those of brain-tire. The intellectual part of the brain is tired, and its action is abnormal or defective. In making the diagnosis, attention must be paid to the past mental and medical history of the patient, and to slight changes of manner, such as can be observed only by the family and business associates, and to which they would pay no attention until warned by the physician. Thorough cross-questioning, on his part, is desirable, and diagnosis will be a matter needing great care. There may or may not be motor changes, but intellectual changes will never be absent, such as inability to carry on sustained reasoning, or to keep on doing the same thing. The more attention that is paid to this disease by physicians in general practice, so much the oftener will it be recognized in its early stage.

Any physician who meets with such cases must often act, if he means to do his duty by his patient, before he can make a sure diagnosis. The speaker does not believe it possible, during the early stage, to make a diagnosis beyond the chance of mistake. If the patient is treated and recovers, a certain class of authors will assume that there has been an error of diagnosis. The speaker wished to say nothing as to the treatment. It had been outlined by Dr. Folsom, and details must vary with the case.

DR. GOLDSMITH, present by invitation, said that he had been so unfortunate as to hear only the summing up of the paper. He referred to the great importance of early recognition of the disease. He does not know but that it must be a matter of theory whether cerebral exhaustion can ever be diagnosticated from general paralysis, or whether general paralysis is not a mere symptom of cerebral exhaustion. In many cases, the symptoms are very slight at first. We cannot be sure of paralysis until there are some paralytic, as well as mental symptoms present, and by that time, most observers are agreed that recovery does not take place.

He remarked that cerebral exhaustion is most likely to occur in persons of a neurasthenic type, and that general paralysis happens most often in those not of this type. If, therefore, in a given case, excellent business ability and common sense were recognized as part of the past history, he would be more suspicious of general paralysis than with the same symptoms in a neurasthenic patient. Dr. Goldsmith continued by saying that the study of the connection existing between syphilis and general paralysis is exceedingly interesting. His own opinion agrees with that of many others, that general paralysis is not a part of syphilis, but rather that it occurs where the nervous system has been deteriorated by previous syphilis, and thus the way has been prepared for it. It comes on long after the initial lesion, and has no post-mortem appearances characteristic of syphilis, in these respects offering an analogy to locomotor ataxia.

The connection between syphilis and the disease under consideration may be illustrated by cases like the following: A man had general paralysis six years after contracting syphilis, and his wife seven years after she received it. The wife's sister had a primary sore on the arm when sixteen years old, and had general paralysis eight years later. The argument is that three people in one family, one of them quite young, had one disease at a somewhat similar period, after having contracted the other. The speaker does not think he has seen much good result from iodide in the treatment, although he has nothing better to offer, and would use it if there were a history of recent syphilis, and the case were seen early. He thinks, however, that early recognition is important. Complete rest is an essential in the treatment.

DR. REYNOLDS inquired if the special senses become degenerated in the early stages.

DR. FOLSOM answered, that degeneration may begin anywhere. As a general thing, however, the special senses are not among the first to deteriorate.

DR. MINOT asked if there may be arrest in the progress of the disease without recovery.

DR. FOLSOM said that there can be no question of that.

[1] See page 202 of the Journal.

[2] Reserved for later publication.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, June 20, 1887.

DR. CHARLES A. LEALE read a paper on

THE PREVENTION OF CHRONIC DISEASE AMONG THE CHILDREN OF NEW YORK CITY,

in which he incidentally gave an account of the work of the St. John's Guild during the summer of 1886. For a number of years past, an appropriation has been made for the purpose of enabling the Health Department of the city to maintain a special corps of physicians to visit the tenement districts during the hot months of July and August; but no such special appropriation could be secured last year, and it was consequently necessary to abandon this service.

At a meeting of the Board of Managers of St. John's Guild, it was therefore determined to make an appropriation of their own funds for supplying this deficiency as far as possible; and three members of the board gratuitously volunteered to give up their summer vacations for this object, and devote the time to the furtherance of this new work. The members of the committee thus volunteering were Mr. John P. Faure, Secretary of the Guild, and Drs. B. V. Tompkins and C. A. Leale. Dr. Leale was chosen President, and in order to accomplish the most good, six physicians among those best fitted to perform the duties were chosen from a long list of those familiar with the English, French, German, Italian, Spanish and Hebrew languages, so that the greatest possible number of sick children might be benefited. The most densely-populated parts of the city were selected as those requiring most urgent attention, and they were divided into six districts; to each of which a physician was assigned.

This work began on the 3d of August, and ended on the 13th of September, and during this time 3,659 families were visited; representing 7,146 adults and 10,086 children. Among these there were found 217 sick adults, and 3,376 sick children. The most prevailing diseases were measles, diphtheria, scarlet fever, scrofula, and syphilis, and, in nearly every case these 3,376 children were not only without proper medical care, but were living in places rendering complete recovery to the large majority almost impossible. The vast importance of improving the sanitary conditions being therefore duly recognized, the summer corps of physicians were directed to make special investigations in regard to the sanitary condition of all visited, and, as a result, they reported that 699 premises were in good sanitary condition, 2,097 were in a fair sanitary condition, and that 863 families were surrounded by bad sanitary conditions or were living in illegal places unfit for human habitation. These were immediately reported to the Board of Health for correction.

To give the sick children the benefit of as much fresh air as was possible, 6,312 free tickets were distributed for the excursions of the St. John's Guild floating hospital, where they were given a sufficient quantity of food, and a hearty meal was furnished to their mothers. To twenty-four very sick children were given tickets admitting them and their guardians for a week or two at the hospital at Cedar Grove, Staten Island, where it was found they were greatly benefited. The very large number of children left with organic heart disease, following scarlet fever, was particularly noticed.

During the entire service the summer corps of physicians devoted, on an average, four hours daily to their work, and one evening of the week they met, together with the members of the supervising committee mentioned, to report verbally the results of their observations, compare notes, and seek counsel in difficult cases. All cases of special importance were referred to the committee for investigation and consultation. Some of these were of such character as required prompt action for the protection of themselves and neighbors. A little girl was found to be suffering from syphilitic ulceration of both eyes, and otherwise poisoned, as the result of a rape. When visited she was found living in two rooms with her father, mother and grandmother, all of whom were in such a drunken condition as to render them completely helpless. Another child, a boy, was found selling fish while his fingers, mouth and some other parts were in an ulcerating syphilitic condition. He had contracted the disease in a neighboring city, and, returning to his home, gave it to his grandmother, mother, and two sisters, and to two infants beside.

At the termination of the service final reports were made by the visiting physicians. One of them wrote; "The cause of the great death-rate among children under five years of age I found to be attributable to over-crowding filth, filthy habits, and bad drainage. Upon a hot summer's day to enter a room in a rear house, whose walls were cracked and besmeared with refuse, and perhaps dead vermin, occupied by a family of six or eight, harboring three or four boarders, upon the floor of which might be seen soiled linen, particles of food and children with a mother standing about the red-hot stove, washing and cooking, and perhaps attending to a sick child, lying in a dark bedroom, suffering from cholera infantum, diphtheria, or scarlet or typhoid fever, was a spectacle frequently indeed brought to my attention." The greater portion of this physician's district was inhabited by Hebrews who had lately emigrated from Austria, Hungary, Poland, Roumania, and Prussia.

Another, whose district also lay in a region densely crowded with a foreign population, wrote: "I noticed a great number of cases of diseases of the eye and ear among the younger children, and these diseases I found to be particularly prevalent among those that were subjected to especially bad hygienic influences. All the houses, without any exception, are overcrowded, and are in a frightfully filthy condition; the rear houses, in addition, being dark and badly ventilated. Here you find as many as twelve to fourteen people occupying one apartment — this apartment consisting, as a rule, of three rooms. In some of these apartments you find the father, mother and grown-up sons and daughters all sleeping, you might say, in one room, without any regard for delicacy or decency. The mortality among the very young children in these houses is of the very highest percentage. If they are overtaken by sickness, their vitality being in such a low state, it almost always results fatally unless they can be removed to some locality where fresh air can be obtained. Even one excursion on the salt water, or in the country, will act like a charm in some cases; the results being better than could be secured with any medicine. The cases that are especially benefited are general debility and marasmus."

A third physician wrote: "From what I learned during the few weeks I had for observation, I am con-

vinced that, to the children of the poorer classes, the Floating Hospital has proved an inestimable boon, not only in affording relief to those suffering from acute disease, but in fortifying others against the terrible effects of over-crowding and bad ventilation. At the request of Secretary Faure, I inspected the Seaside Nursery on Staten Island, and was much pleased with that institution, where I found everything provided for the comfort of those requiring hospital treatment and fresh sea-air. . . . In the small yard of a rear tenement, groups of sickly children were seen playing around an almost open cess-pool, a so-called 'school-sink.' These children have characteristic appearances; they are stunted in growth, pale, and, as a rule, have some form of ophthalmia. Rheumatism is also a frequent visitor to these miserable abodes, and leaves, in many of those who survive, some form of heart disease. Out of more than thirty children found in one of these small yards, only one could be said to be in vigorous health."

During the month of December, the Board of Trustees of St. John's Guild, desiring to obtain further information in regard to the sanitary condition of the places visited by the special summer corps of physicians, made a request that a re-inspection of the worst places should be made, and Dr. Leale gave the following as a sample of the reports received from the physicians: "Not often have I been so agreeably disappointed as I was last Friday and Saturday, when I re-visited the 'pest-holes' which have been changed to human dwellings. While there is still room for improvement, it shows what can be done to better the condition of the poor. I firmly believe the work done by the Guild during the last two weeks exceeded that of the entire season, for 'an ounce of prevention is worth a pound of cure,' and your noble institution surely prevented a vast amount of sickness by its attention to sanitary inspection."

Dr. Leale then went on to say: Such was a portion of the reports that I made to the Trustees of an institution, which had over a quarter-of-a-million of sick and crippled children under its care, and which, with its unique opportunities, had probably done more than any other to prevent disease among children. No child is received without a physician's certificate, stating that the child is sick, and naming the affection from which it is suffering (excluding all those of a contagious character); and this certificate entitles the bearer either to the benefits of our Floating Hospital, which feeds and takes the children, with their mothers, on daily excursions to the ocean during the heated term, or to a permit for a stay of two weeks at our Seaside Nursery, which has an ocean beach on one side, and a beautiful grove of shade-trees on the other. It is unnecessary to ask what such work does towards the prevention of disease and premature death, as a single visit will demonstrate its usefulness. At one of my visits, there were over thirteen hundred sick children with their guardians, on one of the daily excursions, and I saw numbers under five years of age with chronic diseases. There were many epileptics, idiots, and deformed. Several had curvature of the spine or hip-joint disease, bow-legs or club-foot, while tuberculosis, syphilis, and scrofula claimed a large share. The great number of cases of neglected eye, ear, and throat diseases, also, only too plainly told the story of the necessity of prevention, in early life, of permanent disability.

Dr. George T. Harrison read a paper on the

INDICATIONS FOR THE INDUCTION OF PREMATURE LABOR.

In general terms, he said it might be stated that the object we seek to attain in the induction of premature labor was to give a better prognosis in those cases in which the further continuance of pregnancy, or childbirth at term, involves great dangers to mother or child, or both, by an artificial interruption of pregnancy at a time when the fœtus is capable of maintaining existence outside of the uterus. As the chief danger to the mother in the performance of this operation did not lie, as was formerly supposed, in the mechanical irritation of the uterus, but in septic infection, it could confidently be affirmed that if proper antiseptic precautions were observed, this danger was an avoidable one.

The first and most important indication for the induction of premature labor was undoubtedly furnished by pelvic deformity of a moderate degree. Theoretically, this indication was clear enough, but in practice, a number of difficulties might arise in its fulfilment. In the first place, the means for pelvic measurement at our command were by no means as perfect, as they only enabled us to attain to an approximation to correctness. In the next place, the exact period of gestation might be exceedingly difficult to decide in certain cases somewhat deviating from the normal. Irregularities were especially prone to occur in cases of contracted pelvis, from the fact that the head was prevented from entering the pelvic cavity, and thus certain signs of pregnancy were modified.

Having fixed the date of gestation as accurately as possible, the next question was to decide in what week of pregnancy the induction of premature labor was indicated. The earlier the labor was induced, so much the less danger of injury to the soft parts of the mother, and so much greater the chances that the child would be born alive; but, at the same time, the prospect of the child's continuing its existence diminished in proportion to its prematurity. On the contrary, the later the labor was induced, the greater the danger to the mother and child, but the better the prognosis for the preservation of the life of the latter, if it come into the world living. The problem we had to solve, then, was to choose such a time when the child could traverse the pelvis without injury to itself or the mother. In order to do this, it was necessary to form an accurate idea of the size of the pelvis and of the child's head.

In the flat pelvis, the kind of deformity most frequently met with in practice, we had simply to ascertain the measurement of the conjugate diameter. In the case of the equally contracted pelvis the problem was much more intricate. Here it was necessary to introduce the entire hand into the vagina in order to form an idea of the pelvic cavity, and errors were often likely to be made, notwithstanding every precaution to the contrary. The determination of the size of the child's head also presented many difficulties. Schroeder ascertained from careful measurements of the heads of sixty-eight prematurely born children that the head was larger from the twenty-eighth to the fortieth week of utero-gestation than was generally supposed to be the case. It must, however, be borne in mind, Dr. Harrison said, that the heads of immature children are more easily moulded and much

more compressible than obtained in the case of the head of the child at term.

Other criteria which might serve as a guide were the facts, based upon experience, that large and powerful women give birth to large children, and that the weight of the child increases with the age of the mother and with the number of preceding births. The transverse diameter of the heads of the children of young primiparæ was relatively small, while the contrary was true in those multiparæ who were comparatively old. The method proposed by Frankenhäuser and Roth, of determining the relation between the head of the fœtus and the pelvis of the mother, he thought worthy of trial. This method consisted in pressing the child's head into the pelvis, and, by means of the fingers in the vagina, ascertaining if it were possible for the head to descend below the brim. According to Frankenhäuser, this examination should be repeated every eight days, and operative interference should only be resorted to when the descent of the head below the brim seems no longer possible.

As to the degree of pelvic contraction which justifies a resort to the induction of premature labor, Dr. Harrison believed that in the simple flat pelvis a conjugate diameter of seven and one-half centimeters, or seven centimetres in very exceptional circumstances, should be the extreme limit. In the case of the equally contracted pelvis, when the shortest diameter was at least eight centimetres, it might be affirmed that the operation was justifiable. As a rule, the thirty-sixth week was to be selected, and only exceptionally should the term of gestation be anticipated by operating in the thirty-fourth week.

Secondly, an indication for inducing premature labor was given by certain severe diseases which endanger the mother's life and are amenable to no other treatment, while, on the other hand, either a disappearance or at all events an amelioration of the symptoms may confidently be expected with the termination of the pregnancy. One of the most interesting diseases coming under this category was uncontrollable vomiting appearing late in pregnancy. Occasionally it threatened such dangers that operative interference was imperatively demanded, and such a case, which he had recently seen in consultation, Dr. Harrison narrated. In this instance, however, premature labor began spontaneously before artificial measures for bringing it on had been taken.

Another disease of paramount importance which might indicate this operation was nephritis; although it was important that a distinction should be made between those cases in which the anatomical and functional disturbances of the kidneys are evolved by the state of pregnancy, and those in which the disease is an interstitial or parenchymatous nephritis which either existed prior to conception or has been produced during the course of the gestation. As to the induction of premature labor to ward off attacks of eclampsia, this, as was well known, had been a fertile source of controversy; but Dr. Harrison believed that the indication was clear and decided when the urine shows a constantly increasing quantity of albumen and cells in a state of fatty degeneration, and when all the therapeutical resources at the command of the physician have proved unavailing. Again, an excessive degree of œdema and transudation with the serous cavities might demand the performance of this operation.

To make the differential diagnosis between the two forms of nephritis mentioned, which had been termed *nephritis gravidarum* and *nephritis in gravitate*, was no easy task. The clinical phenomena are so nearly alike that the previous history of the case and the course could alone decide as to which form was present in any given case. It was abundantly demonstrated by numerous observations that in chronic nephritis in pregnant women there was a great tendency to abortion and premature labor, and not so much to attacks of eclampsia.

A third indication of premature labor, in the interest of the child, is met with in certain cases in which former experience has shown that the children die at a certain date of gestation, when this time is not far removed from the end of pregnancy. Some cases of nephritis gravidarum came under this category. If syphilis was the cause of the death of the fœtus the artificial interruption of pregnancy, Dr. Harrison thought, was contraindicated; for, in the first place, he said, according to Kassowitz, in latent syphilis of the father or mother, the death of the fœtus took place in each ensuing pregnancy somewhat later, so that in successive pregnancies there came into the world first abortive fruits, then immature macerated, then prematurely born macerated, and finally mature, but diseased, children; still later mature healthy children. On the other hand, we gained nothing by the artificial interruption of pregnancy before the expected time of the death of the fœtus; for the child was already diseased, and might be considered as lost.

In cases, however, in which chlorosis or other anæmia of the mother, or change in the umbilical cord or placenta, had caused the death of the fœtus, the indication of premature labor before the time which experience had shown to be the critical period might be the means of bringing a living child into the world.

It was rare that diseases of the heart or lungs gave an indication for this operation, though they occasionally did. Lastly, an indication for the anticipation of the term of gestation was furnished by those dangerous and incurable diseases of the mother which would probably cause death before the end of pregnancy, in order to avoid the performance of the Cæsarean section post mortem, or in articulo mortis.

In the discussion which followed the reading of the paper, Dr. Leale expressed the opinion that in syphilitic cases it was sometimes desirable to induce premature labor, since by this means a living child might be brought into the world, which, although diseased, might be restored to health under appropriate treatment, but which, if left to the course of nature, would inevitably be still-born. By this means a living child might be gained in the series of Kassowitz referred to by Dr. Harrison.

DR. H. M. BIGGS presented, on behalf of Deputy Coroner Jenkins the specimens from a case of

RUPTURED AORTIC ANEURISM,

the rupture taking place at the junction of the transverse with the ascending arch of the aorta, and entering the left lung. There were also evidences of acute endarteriitis of the aorta, and of the beginning of a small aneurism near the orifice of the right innominate artery.

DR. C. S. WOOD then referred to a somewhat similar case which had occurred in his own practice, the specimens of which he had presented at a meeting of a sister society.

Recent Literature.

Medical Electricity: A Practical Treatise on the Applications of Electricity to Medicine and Surgery. By Roberts Bartholow, A.M., M.D., LL.D. Third edition, enlarged and improved, with 110 illustrations. 8vo. pp. xxiv, 304. Philadelphia: Lea Brothers & Co. 1887.

The fact that the volume before us has reached a third edition is evidence of the favor with which it has been received. Though distinctly inferior, as a scientific treatise, to the works of De Watteville and Erb, it nevertheless is a useful and trustworthy practical manual. The present edition has been fully revised, and has taken note of many of the recent contributions to electro-therapeutics, especially in the domain of surgery, but we regret that the author has not dealt with the question of density in the application of galvanism, or given his voice in favor of Erb's electrodes, which are now adopted as the standard.

A Manual of Obstetrics. By A. F. A. King, A.M., M.D. Third edition; 12mo, 379 pages. Philadelphia: Lea Brothers & Co. 1886.

With commendable zeal the author in preparing this edition has striven to keep pace with the recent advances in obstetric science. Some portions of the book have been rewritten, and every chapter bears evidence of careful revision: there are forty-one additional pages. The value of the work is much enhanced by the new illustrations, forty-three in number, and by the more extensive use of paragraph headings.

Altogether the book is a very good one; and while we have in no way changed our opinion of manuals, as expressed in our notice of the second edition of this book, we would much prefer that a student should *master* a manual like this one than that he should have only a vague and indifferent knowledge of one of the larger treatises.

Transactions of the American Gynecological Society. Vol. II. New York: D. Appleton & Co. 1887.

These yearly volumes are noteworthy as presenting from time to time the results of the thought and experience of the most distinguished men in this branch of the profession in America. As such they claim our attention, and challenge our criticism. While the individual papers differ in merit, there are always some which from their originality deserve especial notice. As in all branches of science, so in gynecology, there are always certain subjects which are in the stage of trial, which are the burning questions of the day, and which more than any others are being talked about, written about, and tested in practice.

Such subjects have always had a prominent place in these transactions, and the present volume is no exception to the rule. The most notable papers in the sense above indicated, are three which discuss the uses of electricity in its various forms in gynecology. Dr. Engelmann, in a very elaborate paper, gives in minute detail the methods and uses of the different electric currents, describes the various instruments, and enumerates the different affections in which this agent has been tried, with the rules for its employment. The paper has its chief value in the precise rules it gives for the kind, strength, direction and intensity of the current to be used, instead of the vague general directions which have almost uniformly been the rule before. According to Engelmann, the range of diseases in which it may be advantageously employed is very large, and the chief criticism we would make is, that the author has conceived the scope of its application to be wider than future experience will show is warranted.

Two papers on special uses of this agent emphasize the growing importance of electricity in the therapeutics of gynecology. One is on the "Treatment of Procidentia by the Galvano-cautery," by Dr. John Byrne, the other on "Electrolysis in Gynecological Surgery," by Dr. Wm. H. Baker. The latter paper deals principally with its employment in cases of fibroids, thirteen out of fourteen cases of which were relieved of suffering and somewhat diminished in size.

Anything which Dr. T. A. Emmet has to say is worthy of attention, and in the paper which he has contributed to this volume on "Pelvic Inflammation," there are a few points which deserve notice. He has been surprised to find that cases where he has diagnosticated "thickening of the broad ligaments," and which later have been operated on for the removal of diseased Fallopian tubes, have shown little evidence of previous attacks of cellulitis. This he explains by presupposing in all cases of inflammation of the tube except those of gonorrhœal origin, a cellulitis, which by absorption and contraction of the tissues after the active stage is over, has drawn up the vaginal wall, and drawn down the tube until they are very nearly in apposition. The broad ligament is somewhat flattened out, but not thickened, and the bloodvessels which have lost their support, and from long-continued obstruction to the circulation become distended, are what are felt as a "thickening of the broad ligament" itself. As the veins become partly emptied after death, this condition may easily be overlooked.

Dr. Englemann enters his protest against the indiscriminate removal of tubes, even when diseased, and feels sure that prolonged local treatment will, in many instances, be followed by a complete cure.

Other notable papers are, "The Influence of Maternal Impressions on the Fœtus," by Dr. Fordyce Barker, in which he argues in favor of the positive influence of such impressions on the child in utero; and "The Value of the Blueish Coloration of the Vaginal Entrance as a sign of Pregnancy," by Dr. J. R. Chadwick, where for the first time the subject has been investigated clinically, and definite facts with regard to it established by statistics. These facts are: I, That its absence is not to be accepted as evidence that pregnancy does not exist, especially in the first three months, when satisfactory evidence is most needed; and, II, That from (and including), the second month this color is generally present, and often of such character as to be diagnostic.

The other papers in the volume will well repay perusal, and as a whole, compares favorably with its predecessors.

— At a recent meeting of the Berlin Medical Society, Professor Virchow announced that Dom Da Costa Alvarenda, a Portugese physician, had, to show the esteem in which he held German medical science, bequeathed a sum of about £3000 to the Society; the same testator is reported to have left a similar sum to the Philadelphia College of Physicians, of which he was an honorary member.

THE BOSTON

Medical and Surgical Journal.

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PARATRIPTICS.

THERE is a clumsy Greek word which means literally to *strike or rub against*. It has lately been proposed to strain a figurative meaning out of this word (which has not yet risen to the dignity of a place in standard medical lexicography), and apply it to that class of nerve-modifiers which are believed to be restrainers of organic waste: tea, coffee, tobacco, wine, coca, etc. It is generally admitted that these substances do, to some extent, limit nervous and muscular expenditure, but their mode of action is largely a matter of conjecture. Nor is it perfectly clear how, in restricting tissue-waste, they can be force-givers (*dynamophorous* was the euphonious word coined by Gubler to express this property). Liebig, we believe it was, who first advanced the explanation that such substances as alcohol supply force to the economy by being themselves consumed, instead of the tissue-elements. Later researches seemed to throw doubt on this hypothesis, although the best authorities seem now agreed, as a result of rigid experimentation, that, at least, one of these "paratriptics," alcohol, in part undergoes transformation in the organism, yielding up force.

Whatever may be the true explanation of the *modus operandi* of these agents, it is none the less a matter of common experience that, under certain circumstances, and within certain limits, they act the part of food, making the ingestion of less food necessary, and facilitating the performance of work. This seems to be emphatically true of coca, the leaf of which is to the Indian of the mountains "the delight, the support, and in some measure, the necessity of his life." Certainly, if there be any one thing which has impressed travellers in Bolivia and Peru, it is the immense amount of work which the natives can accomplish on the most meagre alimentary rations, when supplemented by a supply of their favorite coca.

With regard to tobacco, which Von Bibra calls the "universal stimulant," this narcotic being used by 800,000,000 of the human race, we are not prepared to endorse all that has been said in its praise, nor do we think that this "weed" has been deserving of all the opprobium that has been heaped upon it from King James's anti-tobacco tirade to the present time. Certain it is that, while many are harmed by it, many, on the other hand, affirm that it is a "lightener of labor, and a facilitator of thought." In this connection, it is interesting to read what a high literary authority, who is, by the way, not a physiologist, says of the benefits which, we suppose, that he has personally experienced from the occasional pipe or cigar.[1] The citation is a curious one, as an attempt to explain on physiological principles an action which is common to all the so-called "paratriptics" — an explanation anticipated by Anstie:

"What do we do to ourselves when we smoke? In the first place, we stimulate or increase the normal molecular activity of the sympathetic system of nerves. By so doing, we slightly increase the secretion of saliva and of the gastric, pancreatic, and intestinal juices. We accomplish these all-important secretory actions with a smaller discharge of nerve-force. We economize nerve-force in digestion, and by this we mean to say that we perform the work of digesting food just as well as before, and still have more of the coördinating and controlling nerve-power left with which to perform the other functions of life. Thus, at the outset, tobacco exhibits itself as an *economizer of life*. Such is the inevitable inference from its stimulant action on the sympathetic."

The conclusions[2] reached by a well-known medical authority, who has made personal researches on this subject, are as follows: "Tobacco, when the food is sufficient to preserve the weight of the body, increases that weight; and when the food is insufficient, and the body, in consequence, loses weight, tobacco restrains that loss."

It would be easy to pursue the subject, and show that similar results and conclusions have attended researches and experiments undertaken to ascertain the physiological effects of tea, coffee, and alcohol.

The author of the article on "Sedentary Men and Stimulants," in the *North American Review* for August, 1887, discusses with much good sense the action of paratriptics in their relation to the conditions of the laboring and sedentary man. The former wastes his muscles out of all proportion to his brain, while the latter does the exact reverse, and both thus destroy the relations which should exist between their food and necessary repair. Both must eat the same food, and each is compelled to swallow more than he needs for one portion of the body, in order that he may obtain sufficient nourishment for another. The writer goes on to show that, while the laboring man can stand this by virtue of the muscular labor which he performs, the sedentary man, to nourish his overtaxed brain, must eat too largely and too abundantly for the unemployed portion of his body. Hence "dyspepsia"

[1] John Fiske. Tobacco and Alcohol. New York: Leopoldt & Holt.
[2] W. A. Hammond. Physiological Effects of Alcohol and Tobacco. American Journal Medical Sciences, Vol. 22, p. 319.

and "biliousness" result. "It is certain," he says, "that sedentary men (unless their appetites are restricted) are quite as heavy eaters as laborers, and rarely escape the disorders mentioned. The exceptions comprise chiefly those who, 'by the habitual use of the so-called paratriptics — tea, coffee, tobacco, wine, etc. — daily lessen the waste of the brain, and thus diminish the amount of necessary food.'"

The article concludes with a tirade upon what the writer calls "*the greatest gastronomic sin of the times, an indulgence in all forms of freshly-baked bread*," whose suppression "would cause biliousness and dyspepsia largely to cease to afflict sedentary men;" and with the remark that, of all the paratriptics, "it may finally be said that only personal trial or skilled advice can determine which is best suited to each individual."

We cannot forbear expressing the opinion that Dr. Searle's fresh-bread theory of the causation of dyspepsia and biliousness is rather crude; there are too many exceptions to admit of its being received as a general law. At the same time, it is probably true that it is the excess of foods of all kinds, which are consumed above the needs of the system, or its ability to appropriate them, which is the principal factor in the production of those complaints.

The statement, moreover, that sedentary men eat as much food as laboring men who perform exhaustive muscular toil must be taken with grave reservations. It will, we feel sure, when examined in the light of experience and careful statistics, be found to be wanting in fact.

THE ABUSES AT THE WARD'S ISLAND INSANE ASYLUM.

THE Standing Committee on the Insane of the New York State Board of Charities, consisting of Dr. John J. Milhau and Messrs. Craig and Foster, having made a thorough examination of the three thousand folios of testimony taken during their investigation in July, have now presented their report in regard to the existing abuses at the City Insane Asylum on Ward's Island. The Medical Staff, we are glad to observe, is in no way involved in the general condemnation of existing conditions.

While the cost of food and maintenance, including clothing and care, is extremely low for this class of individuals — amounting to less than thirty-three cents per capita a day — the Committee is unable to find, on the whole, any deficiency in the quality of the food supplied as compared with the purchase or the market price thereof, or bad faith or gross negligence on the part of the Board of Charities and Correction, whose business it is to furnish such supplies. As to the improper character of the food itself, the testimony is cumulative and undisputed, and proves conclusively that the dietary is insufficient in variety and nutritious qualities. It is also shown that with the exception of one article — the bread, which is fairly satisfactory — the cooking is bad, and necessarily so, because of the inadequate appliances in a kitchen intended for 500 to supply the wants of over 1,700 patients, besides attendants. The Committee, therefore, find that "this condition of things is wrong and shameful; especially does it so appear in view of the fact that those who are compelled to eat the mixtures set before them are sick persons requiring a wholesome diet."

The unwise economy which is evident in the food supplied to the institution is exhibited in its buildings. The asylum building proper has a capacity of 1,000 patients; but the population at the time of the investigation was nearly 2,000; while the annex on Ward's Island, and the branch on Randall's Island, ought in the opinion of the Committee to be condemned as uninhabitable. In speaking of the evils produced by overcrowding, the Committee say: "It is not difficult to imagine the general condition, with patients huddled together, many of them without sufficient air space, in associate domitories, and most of them deprived of day rooms, which have been filled with beds, and confined to long wards as cheerless and comfortless as are these miserable masses of humanity which crowd them. The day attendants, compelled to pass fifteen working hours in these repulsive places and in the arduous duties of restraining and quieting the excitements which are responsive to such environments, are at night compelled to sleep two or three and six or seven in small and uncomfortable rooms. In this condition violent wards must become more disturbed, and filthy wards more demoralized, even with the best material for educated attendants. But the worst effect is that, while the salaries of these officers are not relatively low, the general situation repels not only the best, but even ordinarily good men, who would otherwise become applicants for their position, and attracts such as have no due appreciation, and perhaps not even a dull apprehension, of the depressing and disturbing influences to be overcome."

In regard to the treatment by the attendants, the circumstantial evidence received was such as to show beyond all doubt that there are numerous and continual injuries and indignities inflicted upon the patients by the attendants. Overworked, irritable, and ignorant attendants, who need the constant direction and discipline of persons other than themselves, and whose antecedent experiences have never resulted in self-restraint, are placed in positions of absolute and exclusive control of badly crowded and excited patients, without appeal or remedy except on unverified reports to absent medical authorities. The presumption that offences are continually practised by such attendants upon patients in such conditions is of the highest degree of probability. "This moral certainty of abuses abounding in the wards of this asylum," the report goes on to say, "is, if possible, further established by evidence amounting to almost mathematical demonstration. . . . Comparison shows that only a small proportion of such acts of personal violence committed

by attendants on patients, which are not witnessed by any member of the medical staff, are ever reported and proved to the satisfaction of the medical authorities."

In the matter of medical treatment the Committee quote the opinion of Drs. Trautman and Macdonald, that proper distinction had not and could not be made in favor of the treatment of the acute insane, and that not even proper care and attention had been or could be given to the chronic insane.

In closing their report, the Committee say: "The facts proved show that the abuses which have been continued, and against perpetual protests, endured, in the New York City Asylum for the Insane are the effects of permanent causes. The difficulties which have hitherto resisted all efforts for the removal of these causes will not yield to attempts of reform on the surface of the affairs or administration of this asylum, for these causes are, as we have seen, general and inherent in the Department of Charities and Correction, or in the Department of Estimate and Apportionment, or are resultants of lines of error in the relations of the two departments."

For provisional relief, the following immediate remedies are demanded and proposed:

(1) The Board of Charities and Correction to give to the Board of Estimate and Apportionment plans and specifications for all buildings and improvements, in respect of which special appropriations are asked or needed, and also annual accounts and reports, and all necessary information for the general appropriations.

(2) The Board of Estimate and Apportionment to transfer a certain residue of $50,000, and to make further special appropriations, such as may be necessary for proper buildings and improvements on the farm at Central Islip, Long Island, and to make sufficient apportionment for temporary buildings and accommodations, as well as for the current expenses of the institution.

(3) The Board of Charities and Correction diligently to push forward the necessary preparations for the transfer of patients to the farm. The buildings for the accommodation of such patients to be on the cottage plan, none to exceed two stories in height, and all to be inexpensive and in accordance with principles illustrated by the Alt Sherbitz Asylum in Saxony.

(4) The Board of Charities and Correction to reform, as far as possible, the various abuses pointed out as now existing in the Ward's Island Asylum, and to provide adequate, healthy, and cheerful rooms for all patients and attendants; to institute schools for the patients, and training schools for the attendants, both of which have been found successful experiments in the State insane asylums; and to give increased facilities for healthful and productive labor of the patients on the farm and otherwise.

(5) The Board of Charities and Correction, so soon as the new conditions and environment hoped for make it possible, to provide for the treatment of the acute insane, separate from the care of the chronic insane, under the advice of the General Superintendent of both city asylums, and of the State Commissioner in Lunacy.

In order to secure permanency in the reforms thus suggested, the Committee recommend:

(1) Either the management and government of both the insane asylums (on Ward's and Blackwell's Islands), with all their various branches, to be given to a Board of Trustees composed of men and women appointed by the Mayor, to whom they should report; or, as the alternative preferred, all matters referring to the insane to be intrusted to one independent Commissioner, appointed by, and responsible to, the Mayor. If this plan were carried out, the Department of Charities and Correction would have to be reorganized, and might well be divided into four separate departments, each with an individual head, respectively, for (1) insane asylums; (2) institutions for children; (3) all the hospitals and the almshouse; and (4) the workhouse, the several city prisons, and the penitentiary.

(2) On the omission of the city to provide such permanent, as well as provisional relief, the State to intervene in accordance with the existing laws relative to the care of the insane within its borders. The Willard Asylum Act, passed in 1865, which requires counties to send their insane to State institutions, does not except the counties of New York and Kings, but, as no provision for the insane of these counties has thus far been made in the six State institutions, the powers of the State Board of Charities under this act and supplemental acts have heretofore been practically inoperative in the counties in question.

LAPAROTOMY FOR PELVIC PERITONITIS AND SALPINGITIS.

THE paper on "Laparotomy for Pus in the Abdominal Cavity and for Peritonitis," read at the recent meeting of the Massachusetts Medical Society, and published in the issue of the JOURNAL for August 18th, was of value and interest as indicating the future possibilities of cure in diseases formerly regarded as beyond the reach of surgery and medicine, and the conclusions of Dr. Irish have received striking confirmation by four cases lately reported by Terrillon to the Academy of Medicine, Paris.

One of these patients was a young woman, aged twenty years, pale and weakly. This woman had her first child at the age of sixteen and a half years, and the second, two years later. From the first confinement she made a good recovery, the second was followed by a smart attack of pelvic peritonitis. An imperfect convalescence followed; then the patient suffered from exhaustive metrorrhagias, continuous pains in the abdomen, and inflammatory recrudescences from time to time. Laparotomy was performed May 21, 1887, and on the right side Terrillon removed an impervious Fallopian tube of large size, full of muco-pus,

with a diminutive nodulated ovary containing a small abscess; all adherent to the peritoneum. The Fallopian tube on the left side, which was also removed, was similar to the right, and the right ovary, as large as a hen's egg was transformed into a blood cyst.

At the time of the report (May 31st) the patient was regarded as out of danger, and rapidly convalescing.

Another patient had been for seven years suffering from salpingitis and peritonitis. Both Fallopian tubes with ovaries were removed; they were enormously thickened and dilated, full of blood clots, impervious and adherent to the ovaries by false membranes. The operation was followed by restoration to health and cessation of the metrorrhagia. The other two cases (the last of which was treated by laparotomy in March), were similar in kind to the one just mentioned.

Terrillon, in commenting on these observations called attention to the probable origin of the peritoneal inflammations accompanying these cases, and his view strikingly coincides with that of one of the speakers at the Massachusetts Medical Society Meeting, respecting the extension from some inflamed mucous surface of the localized peritoneal inflammation: "There exists," he says, "an inflammation of the mucous membrane of the tubes. According to the clinical characters and the lesions observed, this inflammation seems to have begun in the uterine mucosa. It invades the mucosa of the Fallopian tube, overflows the tube (so to speak) by its fibrinated extremity and spreads over the adjoining peritoneum and ovary. A localized peritonitis thus results. These lesions account for the pain and peritoneal accidents of the onset, the hæmorrhages of the mucous membrane of the uterus and Fallopian tubes, whose vascularity is augmented, the sufferings referred to the region of the ovaries and lower part of the abdomen, and the disorders of the nervous system and digestive tube accompanying. They also account for the persistence of the functional disturbances, despite the means employed to ameliorate them, and the necessity of radical surgical interference which alone can effect a cure."

MEDICAL NOTES.

— The *Revue d'Anthropologie* gives the number of centenarians dying in France of late years as follows: in 1879, 38; in 1880, 31; in 1881, 38; in 1882, 44; in 1883, 51.

— Dr. Charles G. Stockton, of Buffalo, has been elected to succeed the late Dr. Thomas F. Rochester as Professor of Practice of Medicine and Clinical Medicine in the medical faculty of the University of Buffalo.

— Cable dispatches to the daily press report the death from hydrophobia of Viscount Doneraile, of the Irish peerage, who was attacked by hydrophobia, resulting from the bite of a fox received last January. Lord Doneraile was bitten on the hand by a tame fox, a vixen, which he kept as a pet. The coachman, who came to his assistance, was also badly bitten, on the leg as well as on the hand. At the time Lord Doneraile thought that the fox was only out of temper, as it did not appear out of health. As a precaution, however, the animal was shut up, and on the third day it was found dead. A veterinary surgeon examined the body and pronounced the attack a case of rabies. Lord Doneraile started immediately for Paris, taking the coachman with him, for treatment by Dr. Pasteur. Thus, within five days of being bitten, the two patients were in Pasteur's hands. The fate of the coachman is not stated. We await with interest further and more authentic details of the case.

— Drs. Cyrus Edson and Willard Parker, of New York, having differed in their opinions as expressed in articles written for the *Epoch*, on the point of what color is best for summer clothing, and Dr. Edson having said that dark clothes are best because black radiates heat more freely than white, and having cited the polar bear as best adapted by color to hold the bodily heat, the *Sanitary Engineer* says that Dr. Parker is right and Dr. Edson is wrong. The experiments of Coulier (*Expériences sur les étoffes qui servent à confectionner les vêtements Militaires.—Jour. de la Physiologie*, 1858), show that the difference of absorption and radiation between different colors of the same stuff are not perceptible in the shade at temperatures between 70° and 100° F., while the white is much less absorbent than the black when exposed to the rays of the sun. Hence the common opinion which favors light clothing for hot weather is right.

— The *St. Louis Medical and Surgical Journal* referring to the lately published letters of Wagner, the composer, written from the court of the late King of Bavaria, says that they show clearly a state of inverted sexual instinct on the part of the musician in his relations with the mad king. Wagner spent much time and description over the designing of gorgeous female toilettes which he wore in the presence of the king. In the letters the writer enters into all the petty minutiæ concerning the material, cut and trimming of the various garments which go to make up female finery, from the lace chemise and dainty hose to *décolleté* corsages and trailing robes.

— The Spanish Society of Hygiene invite essays suitable for publication in the form of pamphlets or tracts, on the following topics: 1. The Hygiene of Work in Second Childhood. 2. Methods of obviating the Evil Effects produced on the Sight by faulty Conditions of Schools, and the Methods of Instruction. A prize of $50 will be given for the best essay on each subject. Foreigners may compete, and the essays may be written in Spanish, French, Italian, Portuguese, or Latin. The length should be that of a sixteen-page pamphlet. The MSS. must not be signed, but must bear a motto, and accompanied by a sealed envelope bearing the same motto outside, and containing the name of the writer within. The essays

must be addressed to "La Sociedad de Higiene, Montera No. 22, Madrid, before September 30, 1887. The awards will be announced at the opening of the academical session.

Miscellany.

HYGIENE IN FRENCH SCHOOLS.

THE Paris correspondent of the *Lancet*, writing under date of August 9th, says: "The Academy of Medicine has, to-day, been occupied in the discussion of the conclusions come to by a Committee appointed to report on intellectual overwork in schools and other places of education. After considerable discussion, in which MM. Lagenan, Trélat, Hardy, and Brouardel joined, the following conclusions were adopted: 'The Academy of Medicine calls the attention of the public authorities to the necessity of modifying, in conformity with the laws of hygiene, and the necessities of the physical development of children and young people, the present arrangements of our scholastic establishments. It thinks that the colleges and lycées for boarders should be removed to the country; that wide, open spaces should be set apart for games; and that the class-rooms should be improved as regards lighting and ventilation.' Without dealing with the course of study, which it desires to see simplified, the Academy calls special attention to the following points: Increase of the time for sleep as regards young children; for all pupils, a diminution of the time devoted to study and classes — that is to say, to sedentary occupations — and a proportional increase of the time for amusement and exercise; the absolute necessity of submitting all the pupils to daily exercise in physical training, proportioned to their age; namely, walking, running, jumping, formations, evolutions, regulated and prescribed movements, gymnastics with apparatus, fencing of every kind, games of strength, etc."

CARMINATIVES, AND THE ABSORPTION OF GAS BY THE INTESTINES.

THE *Practitioner* reproduces from the St. Bartholomew's Hospital Reports, Vol. XXII, some experiments just published, which were performed several years ago by Drs. Lauder Brunton and Cash, with a view to determine how carminatives act in relieving flatulence. The gases used in the experiments were atmospheric air, carbonic acid gas, hydrogen, marsh gas, coal gas, and sulphuretted hydrogen. With the exception of one experiment the oil of cloves was the only carminative used. In each experiment they first tested the gases alone, and then again after the administration of the carminative. They found that little or no absorption took place when atmospheric air, hydrogen, coal gas, or marsh gas was used, and the addition of the carminative did not seem to increase the absorption. It was only in the case of carbonic acid that the carminative seemed to aid in absorption, and this was due probably more to the effect on the movements of the intestine than to direct absorption of gas. The oil of cloves caused a marked increase in the secretion of the intestine — a fact which perhaps explains the advisability of combining carminatives with purgatives. In regard to sulphuretted hydrogen it was found that its absorption proceeded so rapidly as to produce even fatal poisoning, but carminatives did not exert much influence in increasing the absorption.

A NEW AID IN THE DIAGNOSIS OF GASTRIC DISEASE.

IT is a point of capital importance in the diagnosis and treatment of diseases of the stomach, to determine the motor power of the organ, or, to be more accurate, the period that elapses between the entrance of food through the cardiac orifice and its exit through the pylorus. The chemical properties of salol have enabled Ewald (*Weiner med. Presse*, 1887, No. 28) to accomplish this desirable object. The decomposition of this substance, and consequent appearance of salicylic acid in the urine, does not begin until it has passed into the small intestine. Salol may be mingled with the contents of the stomach, and kept at the temperature of the body for hours, without decomposition. This fact was determined by Ewald in twenty-five experiments. On the other hand, it is rapidly decomposed in the alkaline secretions of the intestine. In healthy persons salicylic acid appears in the urine in from one-half to one hour after the administration of salol. If this limit is overstepped, the delay may be attributed to pathological changes in the stomach. In eight typical cases of dilatation of the stomach studied by Ewald, salicylic acid could not be found in the urine until from two to three hours after the ingestion of salol, and in two obscure cases the same observer was enabled to detect dilatation by means of this delayed reaction.

This interesting observation is applicable, not only as a means of diagnosis, but as a test of the effect of treatment; for, by means of it Ewald has been enabled to determine that both electricity and massage hasten the passage of the chyme into the intestine.—*Medical News.*

A NEW SEXUAL SEDATIVE, *SALIX NIGRA*.

J. HUTCHINSON, M.D., writes in the *British Medical Journal*, July 30th, of his experience with the *salix nigra* or pussy-willow, his attention having been called to the virtues of the drug by a report in the "Transactions of the Texas State Medical Association," from Dr. Paine, who prescribed it successfully in cases of ovarian hyperæsthesia, uterine neuralgia, etc., and also in spermatorrhœa and nocturnal pollution. His verdict upon the drug is that it is a powerful sexual sedative, similar in its action to bromide, but without its depressing qualities.

Dr. Hutchinson obtained a supply of the fluid extract, and has been employing it for some months. The most numerous class of cases in which he exhibited the drug were women of nervous temperament, in whom the nervous irritability reaches its height at the menstrual period, when, along with the general *malaise*, is added a very decided pain in one or other ovary. They also suffered from hemicrania, the pain being situated above the left eyebrow, and resembling the feeling as if a nail were being driven into the skull

(clavus). Many of them, too, complained of pain under the left breast, and extending round to the back. On one or two occasions, he has noticed patients complaining of the above symptoms, and in only a moderate degree, under favorable conditions — as for example, long-continued anxiety or alcoholism — go from bad to worse, till they become hystero-epileptics. In cases of this kind, it is supposed that the centre of inhibition has in some way got out of gear, and the severity of the symptoms depends upon the amount of disturbance in this nerve-centre.

In cases where the ovarian distress was the symptom for which advice was sought, as being, in the patient's eyes, the most prominent, he usually succeeded in eliciting other indications of an irritable nervous system, and placed them upon half-drachm doses of the fluid extract of *salix nigra*, three times a day. In quite seventy-five per cent. of the patients so treated, a great amount of relief was obtained after two or three days' treatment. Not only was the ovarian hyperæsthesia relieved, but the nervous palpitation of the heart was abated, and the patient felt in every way stronger.

He has also given the drug in two cases of nocturnal emissions with marked benefit. The pollution ceased entirely while the drug was being taken, and for several months thereafter. Virile power and passion were not much, if at all diminished, but the relief from the ailment gave great satisfaction.

Correspondence.

THE UNIVERSITY OF MICHIGAN NOT GUILTY.

MEDICAL DEPARTMENT, UNIVERSITY OF MICHIGAN,
ANN ARBOR, August 23, 1887.

MR. EDITOR,—In your issue of August 11, on page 143 is a communication signed "Reader," whose object is to bestow deserved censure on the vicious haste with which some medical schools allow their students to complete the professional course. In mentioning a definite example your correspondent says, "The first course of lectures in this instance was taken at Ann Arbor, and the whole course was less than one year. *The same college* let a man through a few years ago, out of pity, after having decided that he was incompetent, because he attempted (?) suicide." The italics are mine. To the first sentence quoted I make no objection, though the author might have added the statement that by no possibility could the graduation have been recommended by the Medical Faculty of the University of Michigan. The second sentence is so ambiguous that one would wish that the author were as perspicuous a writer as he is a well-intentioned "Reader." The "same college" referred to is *not* the College of Medicine and Surgery at Ann Arbor. I think that no body of men is more earnestly endeavoring to elevate the standard of medical education in this country than the Medical Faculty at Ann Arbor. Yours respectfully,

HENRY SEWALL, M.D.,
Professor of Physiology.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 20, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Diarrhœal Diseases.
New York	1,481,920	758	363	32.00	11.05	3.08	3.12	23.40
Philadelphia	993,801	413	291	24.24	10.56	9.28	2.64	14.43
Brooklyn	745,108	359	193	28.96	8.40	1.40	4.24	22.68
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	182	89	30.80	8.40	3.30	1.65	21.45
Boston	400,000	213	90	22.05	11.25	2.70	2.25	17.55
New Orleans	242,750	116	28	22.36	14.62	.26	1.04	2.08
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	96	43	26.00	12.48	6.24	4.16	15.60
Pittsburgh	210,000	66	28	39.52	15.15	9.12	6.08	22 80
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	80	59	38.75	5.00	—	—	33.75
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	22	8	27.24	13.62	4.54	—	13.62
Charleston	60,145	41	13	21.96	19.52	7.32	—	9.76
Portland	40,000	—	—	—	—	—	—	—
Worcester	68,383	33	16	30.30	12.12	3.03	3.03	24.24
Lowell	64,051	51	26	50.96	3.92	3.92	3.92	43.12
Cambridge	59,660	36	18	33.33	15.15	2.78	—	30.56
Fall River	56,863	40	24	45.40	2.50	—	—	42.50
Lynn	45,861	26	8	15.40	23.10	—	3.85	11.55
Lawrence	39,825	22	13	40.86	4.54	4.54	—	31.78
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	25	12	44.00	16.00	—	12.00	28.00
Somerville	29,992	7	2	42.84	—	14.28	—	14.28
Salem	28,084	13	5	54.76	27.38	—	13.69	41.07
Holyoke	27,894	11	6	36.36	9.09	—	9.09	27.27
Chelsea	25,709	9	7	33.33	—	—	—	33.33
Taunton	23,674	11	7	36.36	18.18	9.09	—	27.27
Haverhill	21,795	9	3	33.33	22.22	—	—	33.33
Gloucester	21,713	6	2	66.66	16.66	—	—	66.66
Brockton	20,783	9	5	33.33	—	—	—	33.38
Newton	19,759	7	2	14.28	14 28	—	—	14.28
Malden	16,407	6	0	16.66	33.33	—	—	16.66
Fitchburg	15,375	6	1	16.66	—	—	—	16.66
Waltham	14,609	6	3	16.66	—	—	—	16.66
Newburyport	13,716	6	1	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,685: under five years of age 1,178; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 709, consumption 288, lung diseases 113, diarrhœal diseases 467, diphtheria and croup 79, typhoid fever 74, malarial fever 36, whooping-cough 18, scarlet fever 12, cerebro-spinal meningitis 12, measles five, erysipelas three, pueperal fever two, small-pox (New York) one. From malarial fever, New Orleans 12, New York nine, Brooklyn five, Philadelphia four, Baltimore three, Charleston two, Nashville one. From whooping-cough, New York five, Baltimore four, Boston three, Brooklyn two, Philadelphia, Milwaukee, Nashville and Somerville one each. From scarlet fever, New York six, Philadelphia three, Brooklyn, Boston and Lawrence one each. From cerebro-spinal meningitis, New York six, Milwaukee two, Philadelphia, District of Columbia, Pittsburgh and Worcester one each. From measles, New York, Boston, Milwaukee, Fall River and New Bedford one each. From erysipelas, New York two, Baltimore one. From puerperal fever, New Orleans and District of Columbia one each.

In the 21 cities and greater towns of Massachusetts, with a population of 1,051,335 (population of the State 1,941,465) the total death-rate for the week was 27.05 against 27.83 and 30.01 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending August 20th, the death-rate was 22.9. Deaths reported 4,050: infants under one year of age 1,790; acute diseases of the respiratory organs (London) 158; diarrhœal diseases 973, whooping-cough 125, measles 93, scarlet fever 54, fever 30, diphtheria 17.

The death-rates ranged from 13.2 in Brighton to 39.3 in Preston; Birmingham 22.2; Bradford 22.5; Hull 20.7; Leeds 21.5; Leicester 27.3; Liverpool 26.8; London 21.8; Manchester 26.3; Newcastle-on-Tyne 29.6; Nottingham 23.5; Sheffield 26.7.

In Edinburgh 17.6; Glasgow 16.4; Dublin 29.6.

The meteorological record for the week ending August 20, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Aug. 20, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ..14	30.01	66.0	76.0	54.0	61.0	31.0	63.0	55.0	N.W.	N.	S.W.	8	4	8	C.	F.	C.		
Monday, ..15	29.87	71.0	79.0	59.0	80.0	44.0	74.0	62.0	W.	W.	S.W.	7	4	8	C.	F.	C.		
Tuesday, ..16	29.76	71.0	79.0	63.0	59.0	61.0	63.0	65.0	W.	S.E.	W.	4	6	8	O.	F.	C.		
Wednes,..17	29.94	66.0	77.0	62.0	54.0	57.0	62.0	61.0	N.W.	E.	S.	11	16	14	C.	C.	C.		
Thursday, 18	29.74	70.0	76.0	64.0	65.0	73.0	61.0	67.0	S.E.	S.	W.	8	18	14	R.	O.	C.		
Friday, ...19	29.86	75.0	85.0	63.0	59.0	61.0	66.0	66.0	W.	S.W.	W.	12	18	8	C.	F.	C.		
Saturday,. 20	29.92	65.0	73.0	61.0	54.0	58.0	59.0	60.0	N.W.	S.	N.	7	3	7	O.	O.	O.		
Mean, the Week.	29.87	69.0	78.0	61.0				62.0										16½	.64

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 20, 1887, TO AUGUST 26, 1887

BAILY, JOSEPH C., lieutenant colonel and assistant medical purveyor. Granted leave of absence for one month. Par. 10, S. O. 191, A. G. O., August 18, 1887.

TREMAINE, W. S., major and surgeon. Found incapacitated for active service, by an army retiring board, and extension of leave of absence on account of sickness still further extended until further orders. Par. 9, S. O. 192, A. G. O., August 19, 1887.

BARTHOLF, JOHN H., major and surgeon. Leave of absence extended one month. Par. 7, S. O. 195, A. G. O., August 24, 1887.

PATZKI, JULIUS H., captain and assistant surgeon. Granted leave of absence for one month. Par. 15, S. O. 195, A. G. O., August 23, 1887.

MATTHEWS, WASHINGTON, captain and assistant surgeon. Ordered to proceed to Phœnix, Arizona Ter., on public business, and on completion thereof to return to his proper station, S. G. O. Par. 21, S. O. 195, A. G. O., August 23, 1887.

TAYLOR, BLAIR D., captain and assistant surgeon. Granted leave of absence for twenty days, to take effect on or about August 31, 1887. Par. 7, S. O. 195, A. G. O., August 20, 1887.

SWIFT, E. L., first lieutenant and assistant surgeon. Ordered to report in person to Commanding General, Division of the Pacific, for duty with troops at Round Valley, Indian Reservation. Par. 20, S. O., 195, A. G. O., August 23, 1887.

JOHNSON, HENRY, captain and medical storekeeper. Ordered in addition to his present duties, to take charge of the office and perform the duties of acting assistant medical purveyor in New York City during the temporary absence on leave of Lieutenant Colonel Jos. C. Baily, assistant medical purveyor. Par. 11, S. O. 191, A. G. O., August 18, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING AUGUST 20, 1887.

LONG, W. H., surgeon. Leave extended six days on account of sickness, August 13, 1887.

FESSENDEN, C. S. D., surgeon. Leave extended thirty days on account of sickness, August 19, 1887.

GODFREY, JOHN, surgeon. Granted leave of absence for thirty days, August 17, 1887.

GLENNAN, A. H., passed assistant surgeon. Granted leave of absence for thirty days, August 18, 1887.

MCINTOSH, W. P., assistant surgeon. Granted leave of absence for twenty-five days on account of sickness, August 17, 1887.

BOOKS AND PAMPHLETS RECEIVED.

Woman's Medical College of Pennsylvania, Philadelphia. Thirty-Eighth Annual Announcement, May, 1887.

McGill University Annual Calendar. Faculty of Medicine. Fifty-Fifth Session, 1887–88. Montreal, 1887.

Un Nouveau Dilatateur du Col Uterin. Par le Docteur Trosifontaines, Chirurgien adjoint des Hospices de Liége. Liége, 1887.

Druitt's Surgeon's Vade Mecum. A Manual of Modern Surgery. Edited by Reginald Harrison, F.R.C.S., Surgeon to the Liverpool Royal Infirmary. Third edition re-written and enlarged. London: J. & A. Churchill. 1887.

On the Existence of "Dermatitis Herpetiformis" (of Duhring) as a Distinct Disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital, etc. New York: Wm. Wood & Co. 1886. (Reprint.)

Plant Chemistry as Illustrated in the Production of Sugar from Sorghum. By Helen C. de S. Abbott, Fellow of the American Association for the Advancement of Science; Member of the Academy of Natural Sciences, etc. Philadelphia, 1887.

Arsberättelse (den Attonde) fran Sabbatsbergs Sjukhus I Stockholm för 1886. Afgifven af Dr. F. W. Warfvinge, Sjukhusets Direktör och Öfverläkare vid dess medicinska afdelning. Stockholm: Isaac Marcus' Boktryckeri-Aktiebolag. 1887.

The Students' Guide to Diseases of the Eye. By Edward Nettleship, F.R.C.S., Ophthalmic Surgeon to St. Thomas' Hospital, etc. Third American from the Fourth English Edition. With a Chapter on Examination for Color Perception. By Wm. Thomson, M.D., Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Philadelphia: Lea, Brothers & Co. 1887.

Original Articles.

THE RELATION OF TEA-DRINKING TO DISORDERS OF THE NERVOUS SYSTEM.[1]

BY WILLIAM N. BULLARD, M.D., OF BOSTON.

The action of tea, as generally drunk, upon the system is two-fold: (1) mechanical, and (2) physiological. It acts mechanically upon the stomach through the bulk of fluid introduced, causing, when taken in large quantities, a certain distension, and it also, thus taken, acts to produce, aside from any chemical effect, a mechanical diuresis. As usually swallowed, also, that is, hot, and almost boiling, it acts as a direct irritant to the mucous membrane of the stomach, tending to bring on a condition of gastric catarrh (Lauder Brunton), and likewise, as a powerful stimulant to the heart, both directly through the diaphragm, and indirectly through stimulation of the gastric nerves.

The physiological action of tea is less well known. That it is, in large doses, a cerebral stimulant there is no question, but beyond this, the exact method of its action upon the nervous system, and how far each of its constituents plays a part therein, still remains undetermined. Much more is clear in regard to its action on the digestive organs, and, had I time, I should be glad to place before you the results of some of the extremely interesting experiments made by late investigators. As it is, I can only refer to them in the most hasty way, before passing on to the proper subject of this paper.

In the first place, Dr. Roberts has found that tea has a strongly inhibitory action upon the salivary digestion, even when in very minute proportion, completely paralyzing the action of the saliva. This he supposed to be due to the action of the tannin. This action may be partially avoided, either by drinking the tea after the meal in such a way that the salivary digestion has taken place before the ingestion of the tea, or by the addition of a little carbonate of soda, which seems to enable the saliva to act. The deterrent effect of tea upon the gastric digestion is well known. Aside from any irritating action upon the gastric mucous membrane, it uniformly retards both peptic and pancreatic digestion, and, in this way, exerts a very strong injurious influence over the whole system. According to the investigations of Dr. James W. Fraser, very lately published, it retards "the digestion and absorption of all the nitrogenized proximate principles of dietetic substances, when peptic and pancreatic digestion are taken together."

From these physiological data, it is easy to see what effect we should naturally expect from the abuse of tea. How these expectations are verified clinically, I have already, in part, endeavored to show in regard to one class of cases.

More than a year ago, in April, 1886, I published a short paper containing an account of some investigations on the subject of chronic tea-poisoning. At that time, I had examined one hundred and sixty-three cases of tea-drinkers, mostly women, and also for purposes of comparison, one hundred and forty-eight persons in whom symptoms existed more or less closely resembling those caused by tea-poisoning, but in whom I was not inclined to attribute the symptoms to the abuse of tea. The results which I arrived at from that investigation are as follows:

(1) That the action of tea is cumulative.

(2) That its action is more pronounced on the young, and on those subject to anæmia, or in a depressed physical condition, although persons otherwise healthy not infrequently show toxic symptoms.

(3) That among the class of people under consideration,[2] who, as a rule, use medium grades of Oolong and Souchong (English Breakfast Tea), the average amount needed to cause toxic symptoms is a little less than five cups *per diem*.

(4) That chronic tea-poisoning is a frequent affection, and that its most common symptoms are loss of appetite, dyspepsia, palpitation, headache, vomiting and nausea, combined with nervousness and various forms of functional nervous affections, hysterical or neuralgic. These symptoms are frequently accompanied by constipation, and pain in the left side or cardiac region.

These results have thus far only been confirmed by further observation and examination of this class of tea-drinkers.

But it is not on these, as a whole, that I desire to dwell. My especial object, to-day, is to present to you as clearly and definitely as possible the relation which exists between long-continued or chronic tea-drinking and various forms of nervous derangement. First, however, I desire to state distinctly that in what follows, reference is made only to *chronic* tea-drinkers. I do not intend to discuss to-day the symptoms produced by acute tea-poisoning, that is, those following the inbibition of a single large dose of tea, or of a few such doses, nor do we refer to professional tea-tasters. On the contrary, those cases we are considering belong to that large class, mostly composed of women, who, for weeks, months, or years, are accustomed to drink daily a considerable amount of tea, often without taking a proper supply of other nourishment, and frequently when they are, from other causes, in an exhausted or anæmic condition. And here we beg leave to emphasize a fact, which may, perchance, seem to some to be almost self-evident, but which yet has apparently not been clearly comprehended by some of the more recent writers on this subject, and this is that the effect of tea varies much in different persons, according to their physical condition and to other circumstances, and again, in the same person at different times. On those of sedentary habits or of weak constitution, tea has undoubtedly a stronger influence than on those who are constantly engaged in active exercise in the open air, and who are physically vigorous. Moreover, much depends on the amount of food taken with the tea, or at other times. Many women drink their tea, not only with their meals, but at other times also, thereby increasing its deleterious influence, while not a few, and these are the cases in which it specially shows its bad effects, use the tea as a stimulant to support themselves for their daily work, while they take little or no other food. The amount of tea taken in this way which will cause unpleasant symptoms is often much smaller than that which can be taken in a proper manner without any evil results. Again, as people become

[1] Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication by the Society.

[2] Those who applied for medical treatment at the Out-Patient Department of the Carney Hospital, or at the Women's Room in the Boston Dispensary.

weak or anæmic from overwork, from want of fresh air, or from any other cause, the amount of tea which they could previously take with impunity exerts its toxic action upon the enfeebled system, so that the same person may, at different times and under different circumstances, be variously affected by the same amount.

These things being premised, we will pass to the consideration of the special subject of this paper.

It is the great prominence of functional affections of the nervous system, which, in combination with the other symptoms, gives its peculiar character to the symptom-complex of tea-poisoning. It is precisely these (functional) affections of the nervous system, which, when they assume a prominent position in connection with the ordinary symptoms of dyspepsia, should lead us to consider the probability of the toxic action of tea. What these symptoms are, I will endeavor to state. So far as my personal observations go, they are always functional; but it is not impossible that a long-continued inbibition of very large doses of tea, after the premonitory symptoms had been neglected, might, in addition to other causes, eventually help to produce some organic lesion in those previously predisposed. But of this I have personally seen no evidence.

The first sign of disorder of the nervous system in chronic tea-drinkers is their general restlessness and nervousness. The normal condition of the nervous system is disturbed and replaced by a condition of hyper-excitability or of less stable equilibrium. This is shown by their want of calmness, their general restlessness and irritability, and the desire to be constantly moving, while at the same time there is a subjective sensation of loss of self-control and of inability to act slowly. Such persons are subject to exaggerated efforts from ordinary impressions; they are easily startled, jump at unexpected noises or sensations, or, in other words, react too freely to slight external influences. The moral balance is also affected. This general condition occurs in nearly all those who have been for any length of time under the toxic influence of tea. Indeed, so universal is it in persons of this class that I should hesitate to make a diagnosis of chronic tea poisoning in a case where it was absent, unless the other symptoms were so marked as to render the affection unmistakable. As the toxic effect of the tea increases, this symptom or series of symptoms is apt to increase in severity and may assume some definite form or develop in some special direction. Some patients, for example, labor under a constant fear that something terrible is about to happen, though without any idea as to the nature of the terrible event which is to occur; others, again, say that they become excited whenever they are in a crowd, feeling as though they were afraid of some one, although they knew all the while that this sensation is wholly causeless. From these conditions it is but a step to the various forms of mental weakness and to hysteria.

The next most frequent symptom of nervous origin is palpitation, which was noted in forty-nine per cent. of our cases, and which probably occurred in a still larger proportion. It is but fair, however, to state that this symptom is not complained of in some otherwise well-developed cases, and that at the time of examination no irregularity of the heart-beat in them could be detected.

These two symptoms, nervousness and palpitation, are, however, common to a large variety of affections, and may be produced in many different ways. In chronic tea poisoning they may be caused either directly by the direct action of the tea upon the nervous system, or indirectly through the production of gastric or intestinal dyspesia. Nervousness, moreover, is so common a concomitant of anæmia or physical depression from any cause that, considered by itself, it could not be judged as in any way distinctive, and it is only from its undue development in proportion to the other symptoms that it acquires value as a factor in the diagnosis. The last clause applies also to palpitation, which frequently occurs, though perhaps not to quite the same extent, in simple dyspepsia, where tea is out of the question. Inasmuch, then, as these two symptoms, nervousness and palpitation, are of such common occurrence in other affections, and, as in the case of the latter symptom, it is not certain that all cases are of nervous origin, we shall for the present make a distinction between them and the more definite symptoms of nervous disorder which accompany chronic tea poisoning, and consider the latter by themselves, only placing among them the more extreme cases of nervousness, such as those already mentioned, where some special form is assumed.

In considering, therefore, the proportion of cases in which symptoms of nervous disorders occur, we shall leave out of account those in which nothing more definite than nervousness or palpitation was noted. For while unquestionably many of these cases, probably by far the greater proportion, really belong under this heading, inasmuch as it is impossible with our present knowledge to determine how far this is the case, it seems advisable to consider in this class only those symptoms about which no doubt can be expressed. We shall likewise omit from our classification among cases which have special nervous symptoms all those in which bilateral headaches occurred, unless there appear some distinct reason for the belief that these headaches were either neuralgias proper or otherwise of true nervous origin.

CASES WITH SPECIAL NERVOUS SYMPTOMS.

The total number of cases of this class of which I have records, is fifty. The principal divisions are as follows:

Neuralgia	20	Hysteria	6
Hemicrania	11	Mental Asthenia	3
Migraine	8	(Tremor	5)[3]

By far the most common form of special nervous disorder found in chronic tea drinkers is neuralgia, and of this I have records of twenty cases. The neuralgia does not appear to have any special tendency to affect any particular nerve or group of nerves, but it apparently attacks the locus minimæ resistentiæ, being found in one person in one portion of the body, in another person in some other. The most frequent form was facial neuralgia, which occurred in six cases. Intercostal neuralgia was found in five, occipital neuralgia (including occipital headaches) in five, and sciatica in four. General neuralgia was found in two; brachial, abdominal, lingual and post-auricular in one each.

The average number of cups of tea drunk in each case was:

[3] See later.

Intercostal Neuralgia	5 cases.	4.4 cups per diem.
Occipital Neuralgia	5 cases.	5.5 " "
Facial Neuralgia	2 cases.	6.25 " "
Sciatica	2 cases.	5.25 " "
General Neuralgia	1 case.	8.00 " "
Brachial Neuralgia	1 case.	5.00 " "
Abdominal Neuralgia	1 case.	6.00 " "
Post-auricular Neuralgia	1 case.	6.00 " "
Total average		5.40 " "

That all these cases of neuralgia are directly due to tea we do not believe; indeed, in some of the cases there is proof of other causes; but in all of them there is reason to suppose that the tea has played some part. In a large proportion of these cases there was either neuralgia in more than one part of the body, or else some other symptom directly referable to the nervous system.

I will here relate one of the more typical cases.

Case I. A woman, twenty-three years of age, came to the Out-Patient Department of the Carney Hospital on the 30th of March, 1885. She was suffering at that time from abdominal neuralgia, a dull pain in the sciatic region, and pain over the left breast. Palpitation. Constipation. Appetite good. Is nursing a child fifteen months old. She drinks tea, five cups or more a day, taking it at every meal, and between meals also. No coffee.

Physical examination shows some tenderness over the left half of the abdomen. Nothing abnormal detected about the heart or elsewhere. Diagnosis: hyperlactation. Tea. Abdominal neuralgia. Treatment: iron. Liquorice powder. To stop tea. To wean the baby.

This patient was seen again in March, 1887, two years later. She stated that she was decidedly better for a considerable time after her visit to the hospital. She had stopped the tea as directed, though she still took one cup occasionally. She had some pain in the left side ever since she was at the hospital, though this had been better for some time after. One year ago she had another child.

She is subject to pains all over at times, but especially in the arms and on the right side of the body. She has now a right facial neuralgia of a week's standing, due to a carious tooth. She has no headaches and but slight dyspeptic trouble. Palpitation, however, is severe. She is very nervous and easily frightened.

How much of the neuralgia present in this case was due to the influence of tea, and how much was due to other causes, anæmia from excessive nursing and a naturally neurotic disposition, it is impossible to say. It is only by collecting a large number of cases like the foregoing and by collation and comparison thereof that we can arrive at any reliable conclusion. The persistence of the nervousness, palpitation and neuralgia so long after the giving up of the tea proves, of course, that the tea is no longer in any part an active cause of their presence. But, on the other hand, there can be but little question that it has in combination with other factors aided in bringing the system into a condition of diminished or depressed nervous vitality, from which it has not been able to recover while under unfavorable surroundings.

Next to neuralgia the most frequent form of special nervous disturbance met with in cases of chronic tea poisoning is migraine and hemicrania. We shall consider these separately, classing under migraine all bilateral headaches, accompanied by nausea or vomiting, not apparently connected with gastric difficulties, and recurring with more or less frequency.

Migraine.— We have under this head five reliable cases. It is on account of the great difficulty of determining the precise source of these headaches that I separated them from the group of hemicrania; yet the same rules apply in a general way to both.

Case II. Woman, sixty. First seen May 18, 1885. Complains of dull frontal headache, which is followed by general weakness of all the muscles, so that she can scarcely move about. The headache is accompanied by nausea, but there is no vomiting. She is subject to attacks of vertigo and is afraid of falling. Appetite poor. Bowels irregular. Drinks *strong* tea — "pure black" — three times a day, and occasionally between meals. Mother has attacks of sleep, which last so long, that she has to be wakened.

May 26, 1885. Improved.

Patient was next seen in June, 1887. States that the headaches ceased entirely, but have lately recommenced again under the form of a right hemicrania. There is no nausea or vomiting with the headaches, but she is weak and has to lie down when they come. Dizziness slight, much less than formerly. Appetite fair. Bowels regular. Stopped the tea as directed in 1885, and, otherwise than the headaches, which have lately reappeared has been perfectly well since. Drinks no coffee. Never had neuralgia or rheumatism.

(This case which has been placed under migraine, should, perhaps, in view of the later history, rather come under the head of hemicrania. It illustrates the closeness of the relation between the two.)

Hemicrania.— Of this we have eleven cases accompanying tea poisoning, not including one case in which the patient drank both tea and coffee. The connection between hemicrania and tea is certainly a very close one. Alcott, as far back as 1839, called attention to tea as a cause of migraine. Whether it be so or not, which I consider doubtful, there can be no question but that there is a close relation between this affection and tea drinking. Since my attention has been drawn to the subject I cannot recollect having seen a single case of hemicrania in which the patient did not drink tea in greater or less quantity.

Hemicrania existed in eleven per cent. of our tea-patients. In some of these, it could not have been entirely due to the tea, inasmuch as it had been inherited, or had existed before the tea-drinking began. In spite of Alcott's statement, and those of other writers in this direction, I cannot help feeling that the influence of tea as a *causative* factor in hemicrania has been exaggerated. That it may, and, in certain cases, does tend to increase the frequency and severity of the attacks, is possible. But the evidence tends much more in a different direction. It points to the fact that hemicrania, or the condition of the system which exists in hemicrania, is one which specially craves the momentary stimulus imparted by tea, and causes a demand for it which is easily gratified. There is in my mind but little doubt that the relationship between tea and hemicrania is due rather to the demand of the nervous system in these patients for a mild stimulant, rendering them more inclined than the average to drink tea, than to any causative effect which the tea may exert. The average amount of tea-drinking in our cases of hemicrania was 4.5 cups (seven cases), or, omitting one case in which the patient was very much debilitated, having apex catarrh, and nursing, at the same time, a baby seven months old, and where the

amount drunk was only two cups *per diem* — an exceptionally small amount to have any serious effect — the average was 4.9 cups.

Paræsthesia. The only other form of sensory neurosis which has been present in any of our cases is paræsthesia. This occurred in two cases, in one of which numbness of the hands and feet was complained of; in the other, burning of the palms and soles, and a sensation as of cold water pouring over the head and forehead. In the latter case, the symptoms were promptly cured by phosphoric acid and the omission of tea. In the former case, the symptoms mentioned, in company with neuralgia, palpitation, and general nervousness, continued for two years, the patient not having given up the use of tea, and not having been under medical treatment. These two cases are not of sufficient importance to lead us to suppose, in the absence of other evidence, that the tea had any direct connection with the paræsthesia. The amount drunk was not excessive in either case, in one only four, and in the other 4.5 cups *per diem.*

MOTOR NEUROSES.

There is no evidence in any case that I have thus far seen that tea, as drunk in the cases we have under consideration, has any marked effect in producing motor neuroses. There is, on the other hand no question but that, when such neuroses exist, if they be not organic, tea should be carefully avoided, as tending to further and promote their development. This is especially the case in chorea and all allied affections.

We find among our cases one in which the patient, a boy sixteen years old, began to have choreic movements two years after he had given up the tea (green tea), which he had previously drunk in excess. This was unquestionably a mere coincidence. Among all the cases of chorea which have come under my personal observation within the last three years, and of which very full and careful records have been kept — seventy-five — not one has been found in which tea-drinking could be assigned as the cause.

Tremor occurred in five cases. Two of these were probably cases of organic disease, two had mental symptoms and others of a character unusual in chronic tea-poisoning, leaving only one in which there seemed a fair probability that the tremor might have been due to the tea. There is no question but that tremor due to tea occurs in tea-tasters, and is frequent in cases of acute tea-poisoning, and Slayter, of Halifax, relates a very interesting case of delirium tremens caused by chewing tea, but in the class of cases of which I treat here, I have thus far failed to find any evidence of its occurrence.

Muscular cramps, or tonic contraction of muscles, occurred in three cases. In none of these was the history sufficiently definite to enable us to refer them to the tea.

HYSTERIA AND NEURASTHENIA.

Neurasthenia. This term serves to cover a number of cases having more or less indefinite symptoms, and standing, as it were, midway between simple nervousness and marked hysteria. The word, as Dr. Wood states, "denotes not a distinct disease, but a condition of the body." It is commonly used to comprise those indefinite forms of functional nervous exhaustion which cannot, as yet, be placed in any other category. As our knowledge of functional nervous conditions advances, and we are enabled to classify them more accurately, more and more cases will be removed from the domain of neurasthenia, and placed under some more exact and appropriate title. As things are now, it is impossible to draw any accurate line between those cases which should naturally be classed here, and those which should more properly fall under other headings. Many cases of exaggerated nervousness are named neurasthenic, and many cases of slight or even moderately advanced hysteria come under this head. For this reason, we shall not consider any cases here, but shall try to define and classify more accurately all those cases which were thus designated in the records or elsewhere.

(Of the four cases which were placed originally under this title, two fairly belong under the head of hysteria, and two to the class of exaggerated nervousness to which I have already referred. The latter cases point to a certain mental asthenia, and, if more strongly developed, might justly be placed among the milder forms of monomaniacal weakness.)

Hysteria. Under this heading I have placed six cases, including all those of functional paralysis.

I. Woman, sixty. Drinks three to four bowls of tea *per diem*, though she has lately diminished the quantity to two or three bowls. Is emotional; cries very easily. Globus hystericus. Temporary paresis of right arm, accompanied by pain.

II. Woman, fifty. Drinks strong tea, six cups or more *per diem*. Has functional paralysis of the vocal cords.

III. Woman, thirty-four. Came to Carney Hospital, May 6, 1885. Had then been emotional and hysterical for two years. Complained, at that time, of nervousness, general weakness, palpitation, and loss of appetite, and was subject to bilateral frontal headaches. Drank tea at each meal, and between meals. Treatment: to leave off drinking tea. Dilute phosphoric acid.

Was next seen two years later, in May, 1887. States that she got well after her visit to the hospital, and has been well since. Slept better, and was not so nervous after leaving off the tea, which she did completely for a time. Now takes two cups of tea *per diem* with meals, sometimes replacing one with a cup of coffee. Except that she is slightly nervous and has a little dyspepsia, is perfectly well. Never had either rheumatism or neuralgia.

IV. Woman, forty-five. Always nervous, but lately worse, and irritable with the children and other people. Feels as though she wanted to cry. Subject to hemicrania on the left side. Pain just below the right scapula, and also in the left side. Occasional palpitation. Appetite fair. Constipation. Occasional severe pain over the epigastrium; otherwise, no dyspeptic symptoms. Youngest child three years old. No uterine symptoms. Drinks about five cups of tea a day; coffee rarely. Is pale, thin, and weak. Tongue and lips pale. Heart normal in size; systolic souffle over pulmonary artery. Nothing else abnormal detected anywhere.

The other two cases are of the same general character as the preceding. In one of them, among the prominent symptoms were lingual neuralgia and functional aphonia.

These cases are of considerable interest as pointing to the influence of tea on hysterical women. That it exerts a specially deleterious effect on the majority of this class there can be but little doubt. That a few

large doses of strong tea act to stimulate the nerves is well known, but the depressing effect of regularly repeated small doses continued over a considerable length of time has been less frequently emphasized.

Certainly the number of those suffering from hysteria among our tea-patients was an uncommonly large one, six out of about 170, this is one out of 28, and this from a general clinic and not from one specially devoted to nervous disease.

In cases of this class I believe it to be of the first importance that either all tea should be strictly prohibited, or that it should be given only on the order of the physician and with great circumspection. I regard it as extremely probable, though not yet absolutely proved, that in all cases where the nervous system is deranged, as in hysteria, and the allied affections, the action of tea is more powerful than on the normal subject and its influence for good or evil increased.

Mental Asthenia.— In those cases of nervous instability in which the mental symptoms are especially prominent, we are naturally led to be more than ordinarily cautious. The general principles which apply in cases of hysteria hold good also here. Happily most of these cases, though extremely trying both to the family and to the physician, will, under proper care and treatment, attain an ultimate cure. Chronic by nature, many of these cases test the skill and patience even of the specialist.

Having now given some of the data gathered from our observations on chronic tea-poisoning in regard to the frequency with which it is accompanied by the various forms of neurosis, it behooves us to state as clearly as possible our opinion in regard to the relation existing between the two. The conclusions which we have reached are as follows:

(1) Chronic tea-poisoning produces a condition of irritability or hyperexcitability of the nervous system, and does this both directly by the action of the tea upon the nervous system and indirectly by the production of gastric derangement.

(2) Tea taken frequently and in moderate doses for a considerable period of time tends therefore to place the nervous system in a condition in which it is more easily affected injuriously by slight external influences. It therefore favors the production of many forms of functional neuroses, and, if such neuroses already exist, aids in their continuance.

(3) There is no evidence that tea taken in the manner described causes any organic nervous lesion, but it is probable that if such nervous lesion should exist, tea thus taken might tend to cause an aggravation and continuance of certain symptoms.

(4) There is no evidence that chronic tea-poisoning produces unaided any serious functional neurosis in persons not in any way specially predisposed thereto. It does, however, in the manner above described act as an important factor in the production of neuralgia, hysteria and allied affections.

(5) When taken constantly in very large doses dyspeptic symptoms usually intervene before irreparable harm is done to the nervous system.

(6) In hemicrania and possibly some other functional neuroses there is probably a craving on the part of the nervous system for a slight stimulation, which is better afforded by tea than by any other equally accessible article, and for this reason patients with hemicrania are so frequently tea-drinkers.

In conclusion, I beg to say that I should be glad to receive information from members of this Society in regard to the frequency with which tea is used among their patients and in the various places where they practice, and of the results which have come under their observation.

A CONTRIBUTION TO THE STUDY OF THE ETIOLOGY OF THE SUMMER DIARRHŒA OF INFANTS.[1]

BY HENRY C. HAVEN, M.D., OF BOSTON.

In a communication entitled "The Etiology and Treatment of the Summer Diarrhœa of Infants," presented to this Society at its last annual meeting, I expressed myself somewhat as follows: —

"According to the United States Census of 1880 Massachusetts has a percentage of total deaths under one year to aggregate deaths of 21.99; the lowest State but one, Pennsylvania.

"Massachusetts has a percentage of total deaths from diarrhœal diseases to aggregate deaths of 7.83, only four of the thirty States ranking lower: yet in this same State in 1884 there were 2,089 deaths from cholera infantum, and in the twenty-two years from 1863 to 1884 40,006 infants died from the same cause.

"These figures only partially show the total mortality from diarrhœal diseases under one year; for according to the State Registration Report the number of deaths in Boston from cholera infantum in 1884 was 504, while by the fuller report of the Boston Board of Health the number of infants dying from *diarrhœal diseases* was 710, a difference of 206. . . .

"Urbane Residence. A second condition which meets with general acceptance as a necessary factor is Density of Population, which, as a rule, is only found in cities and large towns.

"This view is, so far as I know, at present held by all the writers on the subject, whether English, Continental or American.

"The following are fair representative quotations: —

"Dr. Eustace Smith, in his 'Practical Treatise on the Diseases of Children,' makes the following statement as to the causation of 'choleraic diarrhœa': 'It is especially a complaint of warm weather, and summer heat must be looked upon as a powerful predisposing cause of the disease. Other agencies, however, must come in as exciting causes, for the affection is not common in country places, and indeed is *rarely seen out of cities*.'

"Meigs and Pepper in their book 'Diseases of Children' say of 'Entero-Colitis,' 'The most active causes of the disease are the heats of summer, *residence in large cities*, — and this includes higher heat than residence in rural districts, — with greater density of population and more copious filth emanations and improper alimentation.'

"Dr. J. Lewis Smith, in 'Diseases of Infancy and Childhood,' says 'that "cholera infantum," or as it is sometimes called "choleriform diarrhœa," is a disease of the summer months, *and with exceptional cases, of the cities*.'

"Dr. Lewis Starr states in regard to its etiology that, 'like entero-colitis, it is a *disease of cities*,[2] find-

[1] Read before the Massachusetts Medical Society, June 8, 1887, and recommended for publication by the Society.

[2] Italics mine.

ing its victims chiefly among those that live in poverty and squalor.'"

"It seems as if there could be no question as to these views being correct, and yet in studying the occurrence of the disease in Massachusetts from the mortality reports during the five years from 1880 to 1884, certain apparent facts present themselves which it is difficult to reconcile with the ordinarily accepted opinions.

"A few preliminary words are necessary as to the character and value of these statistics. They are taken from the State Registration reports which are deficient in many respects.

"I have only been able to group the deaths from cholera infantum instead of, as I wished, the deaths under one year from all the diarrhœal diseases; the later being nowhere accessible. I have assumed, however, that a death registered from cholera infantum must at least be a death caused by diarrhœal disease in an infant. To just the extent that this assumption is not correct the conclusions are invalidated, but it seems to me it must only be in exceptional cases that a death from cholera infantum does *not* mean a death from diarrhœal disease; and such exception again may as well occur in the city as in the country.

"That cholera infantum in Massachusetts is practically the same disease that we have under consideration is shown by the chart, which gives the curve by months of the mean State mortality for five years (*vide* Chart I). The curve in the city and country is presumably the same, although the registration reports do not give the data for constructing graphic curves which will verify this statement.

"To return, however, to the statistics of the mortality from cholera infantum in Massachusetts. On studying the number of cases occurring in every town in the State during the five years from 1880 to 1884 I find such apparently contradictory facts that, without a more definite knowledge of the *exact* cause of death and of the differing conditions prevailing in the different towns, it does not seem safe to draw any deductions from the statistics.

"I will only call attention to one table (Table A) which seems of some value.

"In this the deaths from cholera infantum are compared with the population, with the births, and with the total deaths under one year in the three following groups:

"(1) Seventeen cities with a population of over 15,000; a total population of 892,077.

"(2) The towns of 15,000 to 5,000; a total population of 331,644.

"(3) The towns under 5,000 (country districts); a total population of 559,364.

"In this table several rather startling figures meet the eye. In the per cent. of cholera infantum deaths to total deaths *under one year* the city and country are *identical*, 27.4. In the per cent. of cholera infantum deaths to births the country shows the best, but even here not as well as the towns of 5,000 to 15,000 population. In the per cent. of all deaths under one to births the cities show the worst, but the towns of 5,000 to 15,000 and the country districts show a very slight difference, and that *against* the country.

"*That is*, these figures, as far as they go, show that while the prevalent opinion is correct that the city is (for some reason) less healthy than the country for babies — inasmuch as 18.1 of those born die under one year in the city against 13.4 in the country, and as, moreover, 5.4 infants under one year die in 1,000 of the population, against 2.4 in the country, more than twice as many — they do *not* verify the ordinarily accepted opinion as to the relative frequency of cholera infantum in the two districts compared as a cause of death in infancy.

"How far these apparent facts will be corroborated by the further study I hope to make is uncertain."

The object of this paper is to present the results of a further study made during the past year.

As neither the deaths under one year from cholera infantum or diarrhœal diseases are stated in the State Registrar's report I have had a rescript made from the original returns of the Age (in months and days), Sex, Color, Birthplace, Residence, and Nationality of every infant dying under one year of age in Massachusetts in the five years 1880 to 1884, together with the date and cause of death.

The deaths from diarrhœal diseases include all these registered as dying from any of the following causes: — Cholera Infantum, Cholera Morbus, Diarrhœa, Dysentery, Enteritis, Entero-Colitis, Gastritis, Gastro-Enteritis, Gastro-Intestinal Catarrh, Inflammation of the Bowels, and Inflammation of the Stomach.

It was said in the former paper: "The curve [the curve, that is, of the mean monthly mortality from Cholera Infantum] is presumably the same in the city and country, although the registration reports do not give the necessary data for their separate construction."

Actual statistics show the following average mean monthly mortality in Massachusetts during the years 1880–1884, from deaths under one year from diarrhœal diseases (in the State as a whole, and in the city and country districts, respectively; *vide* Charts II and III).

It will be seen that the original assumption is entirely borne out, the curves being identical in the two districts.

The second study that has been made from the actual statistics is in reference to the extent of the effect of urban residence.

Is it, as is generally supposed, a most important factor in the production of infantile diarrhœal disease, or can the suggestion of the statistics compiled from the registration report [Table A] be proved a fact by a more exact statistical examination?

To determine this, the total deaths under one year from diarrhœal diseases have been substituted, in Table A, for the deaths from cholera infantum, and the percentages figured on this basis. (*Vide* Table B.)

In order, moreover, to make the comparative test between city and country districts even more severe than in the former study, from the registrar's report I have included in the "country district" no towns having more than 3,000 population. In the former study, all towns under 5,000 were included in the country district.

The correctness of the statistics from which Table B is constructed cannot, it seems to me, be questioned. If not, it proves conclusively that in Massachusetts, at least, the factor of urban residence has not, during the last five years, entered into the etiological sum of the summer diarrhœa of infants to any *considerable* extent.

To be sure, in the comparison of deaths from either cholera infantum or diarrhœal diseases to population, the city compares most unfavorably with the country; but this is a most fallacious comparison, as has been explained above, and should be studied only in connec-

CHART II.

Average Deaths, under One Year of Age, from Diarrhœal Diseases, in Massachusetts, for Five Years, 1880–84.

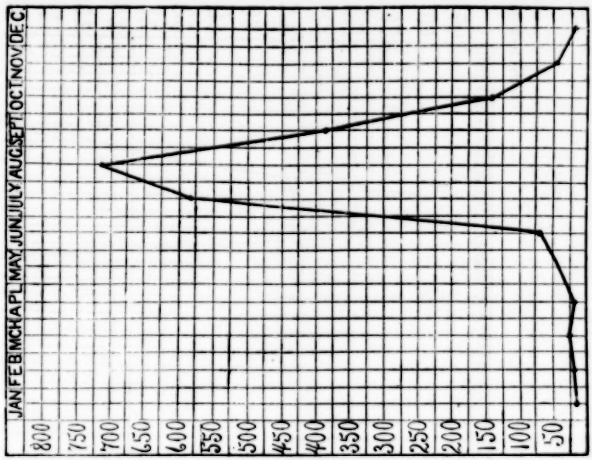
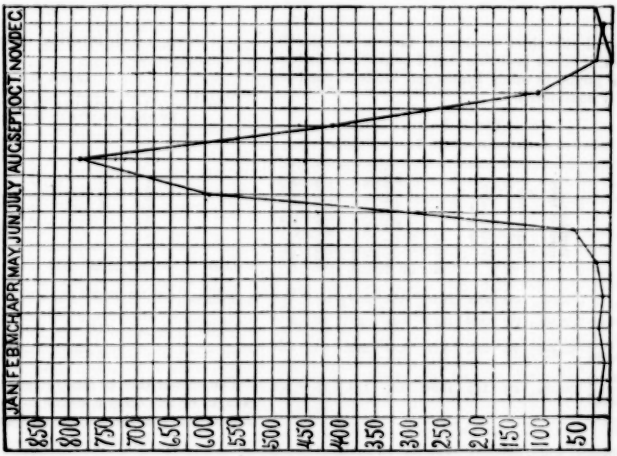


CHART I.

Average Deaths from Cholera Infantum in Massachusetts, for Five Years, 1880–84. *From Registration Report.*



tion with the relative birth-rates to the population in the two districts.

In the deaths from diarrhœal diseases to all deaths under one year, it will be seen that the difference in the city and country is comparatively small, being 28.9 in the former, against 24.9 in the latter.

There is only one condition that I can think of that can vitiate the conclusions from these statistics; that is, that first, many infants who have left the city for the summer die in the country from diarrhœal diseases, and that many more of this class would have died if they had remained in town; second, that many who are *attacked* in the city die in the country districts to which they are removed for treatment, and their deaths are registered as occurring in the "country districts."

But the total average yearly number of infants dying from diarrhœal disease in towns in which they were not born is not large, and, as such registers probably cover most of the cases instanced above, it does not seem as if the conclusions from Table B can be thereby vitiated.

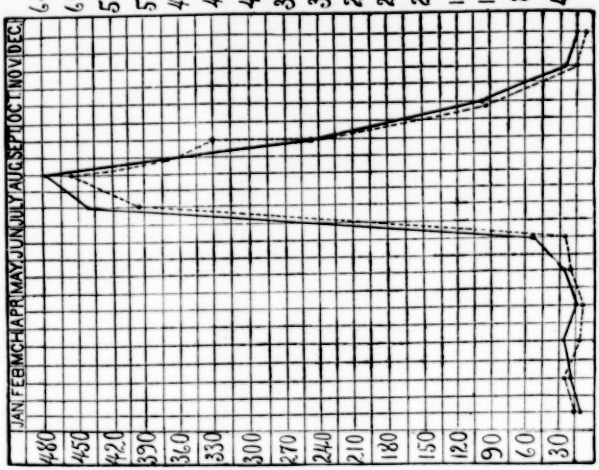
The time has been too short to calculate the percentages after the substraction of these "non-resident deaths," but they will be published later with other tables.

If, then, city residence is *not*, to-day, in Massachu-

CHART III.

Average Deaths in Seventeen Cities of Massachusetts and in "Country Districts," from Diarrhœal Diseases, under One Year of Age. For Five Years, 1880–84.

—— Seventeen Cities. - - - - - Country Districts.



setts one of the chief etiological factors of infantile diarrhœa, it is not probable that it constitutes such an essential factor in other States and lands as has been generally considered.

TABLE A.

ANNUAL AVERAGE FOR FIVE YEARS, 1880–84.

	Population (census of 1885).	Deaths from cholera infantum.	Deaths under one year.	Births.	% of deaths from chol. infantum to 1000 of population.	% of chol. inf. to deaths under 1 yr.	% of cholera infantum to births.	All deaths under one yr. to births.
17 Cities	892,077	1320	4816	26,479	0.14	27.4	5.3	18.1
Rest of State	891,088	712	2639	19,723	0.08	26.9	3.6	13.9
Towns of 15,000 to 5,000	331,644	307	1167	8,757	0.09	26.3	3.5	13.3
Towns under 5,000 (country districts)	559,364	404	1472	10,965	0.07	27.4	3.6	13.4

Etiological knowledge is essential to rational therapeutics. My only object is to present facts bearing on the etiology of a disease which is the *third most fatal cause of death at all ages*, although limited in its time of action to the first year of life — a disease which is acknowledgely preventible, but which, nevertheless, is the only one of the miasmatic diseases (except diphtheria) which has, in Massachusetts, practically increased in the last five, as compared with the last forty-three years.

The summer diarrhœa of infancy is a zymotic disease, and I believe the only factor in its production to be fermentative changes in the food employed, or in the intestinal tract, resulting in a sepsis of the gastro-intestinal canal, and that all other conditions act only by and through their favoring or causing the presence of these changes.

TABLE B.

COMPARATIVE MEAN AVERAGES FOR FIVE YEARS, 1880-84, OF THE MORTALITY UNDER ONE YEAR OF AGE FROM DIARRHŒAL DISEASES IN MASSACHUSETTS.

	Population, 1880.	Births.	Birth rate per 1,000.	Deaths under one year.	Deaths from diarrhœal disease under one year.	% of deaths from diar. dis. to deaths under one year.	% of deaths from diar. dis. to births.	Of all deaths under 1 yr. to births.
17 Cities	892,077	26,232	29.3	4959	1435	28.9	5.47	18.1
Towns, 15,000 to 5,000	572,185	13,828	23.5	1724	464	26.9	3.35	12.4
Towns under 3,000	318,883	5,142	15.9	771	158	24.9	3.07	14.9

The sooner this is recognized, the sooner will the ravages of this disease cease to be the reproach that they now are to the science of preventive medicine.

— We learn that the use of gaseous enemata has been entirely abandoned in the fourth division, Bellevue Hospital, New York, where they have undergone the first and the longest trial.

— The *Medical and Surgical Reporter* says that three young internes of Newark City Hospital have received a very severe lesson. A patient was brought to the hospital, comatose. He was thought to be suffering from alcoholism, and he was treated accordingly, being given a douche and strong cutaneous irritation. The patient died, and on autopsy there was found a tumor of the brain. A coroner's jury investigated the case, and the internes were thereupon arrested for manslaughter.— A "severe lesson" indeed!

A SERIES OF INTRA-ABDOMINAL OPERATIONS.[1]

BY MAURICE H. RICHARDSON, M.D.,
Surgeon of the Massachusetts General, and Carney Hospitals.

THE following cases comprise all that have occurred in my experience since July, 1884. In giving these statistics I do not exclude any operation whatever in which the abdominal cavity has been opened except strangulated hernia and resection of bowel following internal strangulation.

Method of Operation. The incision has been made in the median line whenever practicable. In two of the cases it has been made elsewhere, once in the linea semilunaris and once parallel to the lower margin of the ribs. In all the cases the union was by first intention, and the only trouble was once in the diagonal incision, in which there was suppuration in the stitch holes. The suture of the wound was made in every case with silk and interruptedly, the stitches being about an inch apart. Care was taken in applying these stitches to have the peritoneum well included, and that the fascia transversalis should be also taken up. From these results it seems that it is unnecessary to make separate lines of suture for the peritoneum and other layers of the abdominal wall, which add, in my opinion, unnecessary time to the operation, and do not add to the chances of recovery.

Antiseptics. The carbolic spray was used with the first two operations and then abandoned. The greatest care was used in the disinfection of the hands after they had been most thoroughly cleansed with soap and the nail brush. No hand was allowed in the abdominal cavity except when it was necessary for the purposes of the operation. There was no unnecessary handling of the abdominal contents. No instrument was used that had not been thoroughly cleansed and disinfected previous to the operation and that had not been immersed in an antiseptic solution immediately before using, by the operator himself, who selected his instruments himself.

In some of the cases sponges were used which had been immersed in a five per cent. solution of carbolic acid for several weeks before the operation. In others, balls of worsted enclosed in cheese-cloth, of suitable size, which had been previously boiled, after the method of Dr. J. W. Elliot, were used.

In some of the later operations, in addition to the regular assistants, one was appointed to have general supervision of the antiseptics of the operation, who was well imbued with the principles and experienced in the practice of antiseptics, whose duty was to see that nothing approached the wound that was not perfectly aseptic. This plan worked admirably, and often prevented mistakes which would otherwise have been made in the excitement of the moment.

Another important element in these cases, in my opinion, was the effort on the part of the operator and the assistants to avoid unnecessary delay in the different steps of the operation. I may say that no time was taken at any of the following operations which was not essential for the removal of the tumor, checking hæmorrhage, cleansing the abdomen, and sewing up the wound. The time taken was therefore quite short in all the cases, and did not average more than twenty minutes in all. In one of the longest operations, the length of exposure of the intestines did not exceed forty-five minutes, and in most of them less than ten. In all of the cases where the peritoneum was opened the body was tightly swathed with dressings which were not disturbed, except for cause, till the end of a week.

[1] Read before the Boston Society for Medical Observation, April 19, 1887.

INTRA-PERITONEAL OPERATIONS. OVARIOTOMIES.

CASE I. July 25th, 1884. Carney Hospital. Single, age thirty-three. This woman had noticed a swelling of the abdomen for fifteen months which had gradually increased in size, had been accompanied by more or less discomfort, and was having a marked effect upon her general health. The tumor was found to be a unilocular cyst of the right broad ligament, which was sessile in the pelvis. It was removed with great difficulty, and there was very free hæmorrhage which was very hard to check. The operation lasted about an hour, owing to the fact that the bleeding vessels were so far down in the pelvis that it was extremely difficult to get at them. She never rallied from the shock of the operation, but gradually failed and died three days later.

CASE II. January 18th, 1885. Carney Hospital. This was a feeble woman of sixty-six years. The tumor which was very large had grown to its present size in eight months. Vomiting was very constant and she was much emaciated and very anæmic. There seemed at the outset very little hope of her surviving, but this appeared to us the only chance. The peritoneal cavity was found filled with a gelatinous fluid which was scooped out, and the tumor brought into view. The cyst was filled with the same jelly-like mass, and had to be removed in the same way. About thirty pounds were removed in this way. The peritoneal cavity was cleansed as well as possible and closed in the usual manner after the pedicle had been ligated and burned off with the cautery. She never rallied afterwards, and died January 25th. The tumor was examined by Dr. Whitney and found to be malignant.

CASE III. Carney Hospital. Married woman, age thirty-one. First appearance of symptoms about one year before admission. She had been tapped five times and enormous quantities of fluid withdrawn. May 14th, 1885, a multilocular cyst was removed without difficulty. The fluid weighed fifty-two pounds. In this as in all my ovariotomies the pedicle was ligated and burned, and then dropped back into the abdomen. About six months later the patient died with a return of the disease, without consulting any surgeon.

CASE IV. Carney Hospital. Married woman, age sixty. Had had thirteen children and two miscarriages. August 1st, 1885, a multilocular cyst weighing fifteen pounds was removed. Discharged well, August 26th.

CASE V. Married, age forty. July 13th, 1886, a unilocular cyst weighing thirty pounds. There were very numerous and extensive adhesions to the omentum and traverse colon which were divided with the cautery after tying interruptedly with catgut. Discharged well three weeks later. The convalescence was complicated by a severe phlebitis.

CASE VI. Massachusetts General Hospital. A young unmarried woman had been suffering for several years with acute pain in the region of the right ovary. At the same time she had been gradually increasing in

size. The thing, however, which compelled her to seek advice was the ever-present pain. At the operation, October 8th, 1886, the tumor, which was a unilocular cyst of the right ovary, was found to be very extensively adherent by recent peritonitis. It was removed without difficulty, and she made a rapid recovery.

CASE VII. St. Margaret's Home. A young woman, age twenty-one, gave a history of abdominal enlargement of four years standing. The tumor presented one interesting point in diagnosis. Over the pubes there was a small hard mass apparently adherent to the tumor, and which seemed to be a portion of it. It was finally thought to be the uterus riding upon and in front of the tumor. On this account some difficulty was anticipated. In the operation, November 18th, 1886, the abdomen was opened, and a unilocular non-adherent tumor was found and removed with the greatest ease. The hard mass was found to be the uterus, and its presence in that unusual position gave no difficulty whatever. The patient was discharged well in three weeks.

CASE VIII. At St. Margaret's. An anæmic woman of thirty-five had been suffering for two years with abdominal trouble. She had postponed the operation in the hope held out to her, by her "physician," that he could scatter the tumor by his medicine. Meanwhile, she had become much emaciated, and had suffered great and continuous pain and discomfort. February 12, 1887, I removed a multilocular cyst of the left ovary. There were extensive adhesions, which were divided with the cautery, and the pedicle was tied and dropped in the usual manner. She was discharged, well, in four weeks.

CASE IX. St. Margaret's. This was a young married woman, age thirty-three, who had first noticed that there was something wrong in June, 1886. Since then, the abdomen had enlarged steadily and rapidly. It was evident, on examination, that there was a large tumor of the abdomen, which was partly solid, and extended up under the liver. The tumor was removed March 15th, through a long incision, which extended above the umbilicus. She is, to-day, perfectly well, and about to return home.

OPERATIONS UPON THE STOMACH.

CASE X. Massachusetts General Hospital. Gastrotomy. This operation was done August 5, 1886, at the Massachusetts General Hospital, for the removal of a plate of teeth from the cardiac extremity of the œsophagus.[2] This patient has become as well and strong as ever, and has been able to do hard work. He has to be careful, however, to avoid exposure, because of the injury to the lungs, which have left him more or less susceptible to the effects of wet and cold.

CASE XI. Massachusetts General Hospital. Laparotomy for examination of tumor of the stomach. A woman of forty-four had suffered for eight months with vomiting (bloody at times), epigastric pains, emaciation, etc., with epigastric tumor. The diagnosis was considered quite doubtful, and was between cancer of the stomach and tumor of the spleen, in the opinion of those surgeons of the Massachusetts General Hospital who examined her. December 5, 1886, an incision was made in the median line, from the ensiform cartilage towards the umbilicus. The greater curvature of the stomach was exposed, and examined with the finger, and by the aid of the electric light. The anterior wall of the stomach was found to be the seat of a very extensive malignant disease, which had already infiltrated the surrounding parts. The wound was closed with silk, interrupted sutures, and she made a rapid recovery from the operation. After leaving the hospital, she regained her strength sufficiently to be up and out-of-doors. She has since died, and an autopsy showed the presence of cancer.

CASE XII. Massachusetts General Hospital. Penetrating wound of the abdominal cavity; enlargement of the cut, and exploration of the abdominal contents. Woman, age twenty-three. Shortly before entrance she had been stabbed with a sharp knife, and had received a deep cut through the abdominal wall, a little above and to the left of the umbilicus, with numerous cuts in other parts of the body, which were of little or no consequence. A small portion of omentum protruded from the wound. Under the most careful antiseptic precautions, the finger was introduced into the wound, which was found to communicate with the peritoneal cavity. The wound was then enlarged sufficiently (five inches) to allow a prolonged and careful examination of the intestines. No wound of the bowel having been found, the cut was sewed up, and patient put to bed. She was discharged, well, September 11, 1886. In this case, the question of interference was discussed, and the unanimous opinion of those present was that an examination should be made of the contents of the abdominal cavity, in order that the patient might avoid the chance of dying by a preventible cause, it being assumed that the proposed operation would not add much to the already existing danger. This view of such cases I believe to be the right one in the present state of our knowledge of abdominal surgery, and the well-known high rate of mortality in penetrating wounds of the abdomen.

CASE XIII. Massachusetts General Hospital. Closure of the abdominal cavity after laceration of its walls and protrusion of the intestines. Girl, age five. This little girl was run over by a herdic shortly before being brought to the hospital. There was a fracture of the pelvis, laceration of the vaginal wall from the cervix of the uterus to the spine of the pubes. The intestines protruded through the vagina and up on to the groin. The symphysis pubis was fractured, and the bones separated. The bowels were replaced, and the vaginal wound closed with catgut. The pubic bones were wired together. The mother refused to leave the child at the hospital, and she was treated as an out-patient. She made a rapid recovery, however, and some weeks later I removed the wire, and found the vaginal wound healed and the child nearly well.

LAPAROTOMY FOR DIAGNOSIS IN SUSPECTED TUMOR.

CASE XIV. A woman of thirty-eight had been much troubled by enlargement of the abdomen for five years. She was admitted to the Carney Hospital in the spring of 1884, and was treated on the medical side for some weeks. Several careful examinations were made, including two under ether, but nothing abnormal could be found. At her urgent request, and with the advice and consent of the attending physicians the abdominal cavity was opened and explored. January 25, 1885, an incision was made in the linea alba large enough to admit the hand. The abdominal organs were examined successively with care, and nothing was found requiring operation. She made a

[2] See page 567 of No. 24, Vol. CXV of this Journal.

rapid and uninterrupted recovery, and for a time expressed herself as feeling much better than before. She was discharged, however, unimproved.

LAPAROTOMY FOR THE REMOVAL OF UTERINE TUMOR.

CASE XV. Patient age forty. History of an enlargement of the abdomen of a year and a half. The enlargement was at first slow, and later it has been rapid. Catamenia regular. Examination of the patient showed a large symmetrical tumor of the abdomen, not painful or tender. At my first examination there seemed to me to be distinct fluctuation, and I made the diagnosis of a simple cyst of the ovary. The uterus moved with the mass but did not seem to be intimately connected with it. The whole mass could be pushed up with ease from the pelvis with the hand in the vagina. The general health of the patient was not much affected, and the case looked extremely promising. March 14th, Dr. Fitz examined her with me and threw some doubt on my diagnosis, saying that the tumor did not have the unmistakable fluctuation of a cyst. It suggested a semi-fluid contents, or possibly a soft fibroid.

Operation, March 15th. Carney Hospital. An incision three inches in length was made in the linea alba, and the tumor exposed. It was found to be fluctuating, and was supposed of course to contain fluid. The introduction of the trocar was not followed by escape of fluid, and the tumor was then seen to be solid. The incision was then enlarged to six inches and the tumor delivered. The pedicle was pierced with two knitting-needles at right angles to each other, and ligated below with elastic tubing. In cutting off the tumor the uterine cavity was not opened. The tumor arose from the posterior wall of the uterus, and there was no real pedicle, the whole having the appearance of an enlarged and symmetrical uterus. There was a

OVARIOTOMIES.

No.	Date	Place	Age	Married or Single	Nature of Tumor	Adhesions	Pedicle	Result
1	July 25, 1884	Carney Hospital	33	Single	Broad Ligament	Sessile	Tied & dropped	Death
2	Jan. 18, 1885	Carney Hospital	66	Married	Malignant. 30 lbs., Multilocular	None	Tied & dropped	Death
3	May 14, 1885	Carney Hospital	31	Married	52 lbs. Multilocular	None	Tied & dropped	Recovery
4	July, 1885	Carney Hospital	60	Married	15 lbs. Multilocular	None	Tied & dropped	Recovery
5	July 13, 1886	Carney Hospital	40	Married	30 lbs. Unilocular	Extensive	Tied & dropped	Recovery
6	Oct. 8, 1886	Massachusetts General Hospital	23	Single	15 lbs. Unilocular	Extensive and recent	Tied & dropped	Recovery
7	Nov. 18, 1886	St. Margaret's	21	Single	15 lbs. Unilocular	None	Tied & dropped	Recovery
8	Feb. 12, 1887	St. Margaret's	35	Married	20 lbs. Multilocular. Semi-solid	Extensive	Tied & dropped	Recovery
9	Mch. 8, 1887	St. Margaret's	33	Married	Multilocular. Semi-solid	None	Tied & dropped	Recovery

LAPAROTOMIES.

For Operations on the Stomach.

No.	Date	Place	Age	Sex	Conditions, etc., requiring Operation	Operation	Result	Effect on conditions requiring operation
1	Aug. 5, 1886	Massachusetts General Hospital	37	Male	Impaction of false teeth in œsophagus	Gastrotomy, hand introduced in stomach	Well	Cure
2	Oct. 12, 1886	Massachusetts General Hospital	44	Female	Cancer of stomach wall	Laparotomy, exploration.	Well of operation	None
		For Examination of Abdominal Viscera after Punctured Wound.						
1	Oct. 12, 1886	Massachusetts General Hospital	23	Female	Stab with sharp knife into abdominal cavity. No symptoms	Laparotomy, examination of intestines	Well	....
		For Diagnostic Purposes.						
1	Jan. 25, 1885	Carney Hospital	38	Female	Enlargement of abdomen. Pain. Suspected tumors	Laparotomy, exploration of viscera	Well	None. No improvem't
		For Closure of Abdominal Cavity after Laceration of its Walls and Protrusion of Intestine.						
1	1884	Massachusetts General Hospital	5	Female	Fracture of pelvis, rupture of vagina, protrusion of intestines	Closure of peritoneum, wiring pelvis	Well	Well
		For Removal of Uterine Tumor.						
1	Mch. 15, 1887	Carney Hospital	40	Female	Abdominal tumor beginning to affect general health	Hysterectomy, uterine canal not opened	Died	....

very large bloodvessel in the left broad ligament, which was tied and burned, as it seemed to be the main arterial supply to the tumor. In applying the ligature to the pedicle use was made of a pair of enormous double hooks made for the purpose, by means of which, through a tackle and blocks, the tumor was held suspended from the ceiling sufficiently to allow the manipulations at the base of the tumor without interference from its size and weight. During this part of the operation the intestines escaped from the wound, very unfortunately, and were exposed eight minutes to the air, although covered with a carbolized towel. It was found extremely difficult to replace them on account of the tight contraction of the abdominal muscles. The incision was carefully closed about the pedicle and the wound dressed with iodoform and gauze in the usual manner. The operation lasted forty-five minutes. The tumor was pronounced by Dr. Fitz to be a lymphangiectatic fibromyoma.

During the following days the most troublesome symptom was vomiting and flatulence, much gas escaping from the mouth. Nothing whatever passed rectum. The temperature gradually rose from 101° the first night to 104° the night of her death, which took place March 19th. The abdomen became very much distended, and vomiting was incessant. The question whether there was some obstruction to the intestine was constantly in my mind, but the impossibility of making a diagnosis between that and a general peritonitis, with the experience of others in such cases, led me to delay in the hope that nature would unravel the difficulty, and especially from the fact that reopening the abdomen in such cases has been almost invariably fatal. Moreover, many recoveries have followed where the symptoms were fully as bad as in this case. I therefore did not interfere till the last day, when I explored the wound and the parts immediately subjacent without finding anything to be remedied. At this time the patient was moribund. Death took place the same night.

My assistant made an examination shortly after death (twenty minutes), and gave me the following report, which I was unable to verify, having been called away for two days.

"The abdominal wound was enlarged up to the ensiform cartilage and downwards to the pubes. An examination of the intestines showed a twist in the gut about the middle of the small intestine. Below the twist the intestines were entirely collapsed, and above were distended with gas. At the point of stricture the intestine seemed to be twisted upon itself, and was black and gangrenous, extending above and below about four inches, gradually fading to the normal of the rest of the intestines. There was no pus in the abdominal cavity, and no opening into the intestine could be discovered."

This condition could have been remedied, of course, had it been possible to make a correct diagnosis. The difficulties in the way of such a diagnosis are certainly very great, and the fact that cases recover after these severe symptoms have been present some days make one much more reluctant to interfere than he might otherwise be. I do not see how this could have been avoided, and I am sure if I was to repeat the operation under the same circumstances I should use the same precautions in replacing the bowels that I did in this case with such disastrous consequences. It is very important that the intestines should be restrained from escaping, and I think that hereafter I shall have an assistant whose sole duty shall be to prevent such an occurrence.

PLEURISY WITH EFFUSION.[1]

BY THOMAS F. SHERMAN, M.D.,
Physician Boston Dispensary.

I BRING the following cases of pleurisy with effusion before the Society to-night, not with the expectation of adding anything to the knowledge which the members may already possess, but rather in the hopes of being myself instructed, in the discussion of the paper, as to the efficacy of the usual routine treatment of effusions, and as to the proper time in the course of the disease when operative interference shall be deemed advisable, whether aspiration should be performed, as some authors advise, as soon as physical examination can detect an effusion, or is to be regarded, like tracheotomy, as a *dernier resort* in cases where danger to life is imminent.

CASE I. In January, 1884, I was called to see Mary D., aged five years, and obtained from her mother the following history. She had always been a healthy child up to a year ago, when she had broncho-pneumonia following measles; since then she has been well till during the last four weeks, when her mother noticed that she was losing flesh and was unable to run or talk fast owing to shortness of breath; she has had a dry hacking cough, and has been feverish at night.

Physical examination showed a poorly nourished child with flatness on percussion, below the level of third rib, over the left front and axillary region, and below the spine of scapula behind, with absence of respiratory sounds and vocal fremitus. The apex of heart was displaced one inch to the right of mid-sternum. Pulse 132, respirations 40, and temperature 101°.

She was kept in bed, fly blisters applied to the lower part of left back, and three grains of the iodide of potassium given every four hours.

This treatment was followed for four days without producing any improvement in either the rational or physical signs. Believing that the effusion had already lasted three weeks, or more, and that it would not be prudent to allow it to remain longer, on January 28th, I punctured, first with my exploring needle attached to a hypodermic syringe, and then with the aspirating needle, one inch below the angle of scapula and drew off a pint of clear sero-fibrinous fluid. She was then given half a teaspoonful of the camphorated tincture of opium to relieve coughing. The next day the child was very comfortable, the apex of heart was almost back in normal position, and there was good resonance and respiration in front as low as nipple; behind there was still flatness and absence of respiration below the angle of scapula. She was ordered the tincture of chloride of iron and malt extract, and continued to improve uninterruptedly, although it was two months before there was good resonance and audible breath sounds below the angle of scapula.

I saw her one week ago and she was still in good health, and no abnormal sounds were found in chest by auscultation or percussion.

[1] Read before the Boston Society for Medical Observation, April 4, 1887.

Case II. Miss R., aged thirty, attributes her present illness, which began two weeks before I saw her, to exposure while taking in clothes during a rain. When I first saw her, February 9, 1884, she had been in bed a week, complaining of pain on inspiration over right side, less severe then than at first, shortness of breath, cough, with whitish expectoration, loss of appetite, alternate flashes of heat and cold, no chill.

Physical examination showed the presence of a bronchitis with a moderate effusion on the right side. Pulse 105, temperature 102°, respiration 26. She was given the iodide of potassium, ten grains four times a day, with the extract of elaterium, an eighth of a grain every two hours till free dejections. The next day she was feeling more comfortable, had had numerous watery dejections and was breathing much easier. On February 12th, fair respiration was heard over the whole of right front and over the right back to an inch below the angle of the scapula. She continued to improve till February 15th, when being disturbed by a blind rattling in the night, she imprudently got up, fixed the blind, and then went back to bed again, feeling cold and chilly.

On seeing her the next afternoon I found her much worse, and physical examination on the day following showed flatness over the right front and axillary regions, below second rib, with bronchial respiration and bronchophony under the right clavicle.

Apex of heart was one inch beyond the mammary line, edge of liver felt below the ribs. Pulse 112, respiration 34, temperature 102°.

The extract of elaterium was ordered as before, but this time did not cause any diminution in the effusion.

On February 18th, the physical signs remaining the same, I aspirated below angle of scapula and drew off two quarts of clear fluid, without trouble. That evening I was suddenly called to see her and found her breathing at the rate of fifty per minute, respirations shallow and painful, physical examination showed no return of the effusion, and on injecting an eighth of a grain morphine, subcutaneously, the respirations soon fell to thirty per minute, and she spent the rest of the night very comfortably. She had no further trouble after this, the temperature, pulse, and respiration gradually falling till they became normal in about five days. She has been in good health since then up to the present time.

If we are to consider in this case and in Case I that the pleurisy was not a disease *per se*, but a symptom of tuberculosis, as some German writers maintain, it would seem that in three years other symptoms should arise, or, as Dr. Shattuck has said, that tuberculosis is recovered from more frequently than is commonly supposed.

Case III. B. M. was a stout, well-built man, aged twenty-eight, of good family history, and a blacksmith by trade. He says he has never known what it was to be sick, and now consults a doctor for the first time, to be relieved, if possible, of a shortness of breath, which has been gradually increasing during the last three weeks, till he is unable to swing his hammer without getting out of breath, and having to rest afterwards. His appetite is poor. He has a slight, dry cough. Has not been confined to his bed, and has worked up to two days before I saw him.

Physical examination showed the presence of a large effusion on the left side, extending anteriorly above level of third rib, and behind to an inch above spine of scapula. The left intercostal spaces were bulging, with apex of heart almost two inches to the right of sternum. Temperature 99°, pulse 90 and intermittent; respirations 34 to the minute when he was quiet, but becoming rapid on the least exertion.

Feeling that this was a case where the heart was impeded in its work by the amount of the effusion, and that any delay might prove dangerous through sudden paralysis of the heart, I made arrangements to see him later in the day, when I slowly removed, by aspiration, a little over three pints of clear serum before I was compelled to desist by his complaining of a feeling of constriction across the chest. He was given brandy, and the carbonate of ammonia ordered in ten-grain doses, every four hours. The next day the heart was beating regularly, with the apex mid-sternum, and in about a week later, he was able to return to his work.

Case IV. H. D., aged nineteen, clerk, was seen in January, 1885. He had been complaining for a month of progressive loss of flesh and strength, with shortness of breath on exertion. His family history was good.

On examination, a large effusion was found occupying two-thirds of left chest, with apex-beat to the right of mid-sternum. During the next three days he was given the iodide of potassium, and the back painted with tincture of iodine morning and night.

The effusion showing no signs of being absorbed, I then punctured the chest twice with the aspirating needle, the first time unsuccessfully, owing probably to the puncture being made too low down, the second time withdrawing about a quart of fluid. The rest of the effusion disappeared in the course of a week, and he soon afterwards returned to his work. I saw no more of him for five months, when he again appeared at the office, complaining of the same symptoms as before. Examination this time, however, showed well-marked disease at left apex, which ended fatally in about three months. In this case, the pleurisy was probably only a symptom of tuberculosis, although I believe that it is now admitted that a long-continued effusion may indirectly cause lung disease, as well as be produced by it.

Case V. On December 17, 1886, I was called to see Mrs. M., aged twenty-eight, who gave the following history: She had always been well up to four days ago, when she got her feet and clothes wet. Since then she has felt cold and chilly, with headache and general malaise. The day before I saw her she had had a chill in the afternoon, followed by a second one at night. Has had a dry cough, with pain under right nipple. Examination showed diminished resonance over the lower right back and axillary region, with feeble respiration; no râles. Temperature 102°, pulse 110, respirations 26.

Dover's powder ordered at night. The next day she reported that she had rested well. Examination showed flatness and absence of respiration below angle of scapula posteriorly, and below fifth rib anteriorly. During the next week the effusion increased gradually, with slightly higher temperature at night, till, on December 27th, ten days after I had first seen her, it had reached the third rib in front, and the spine of scapula behind. The apex of heart was outside of the mammary line. Measurement of the left side, from centre of sternum to the centre of spine, was fifteen inches; of the right side, sixteen inches.

The treatment up to this time had been mainly expectant, liquor ammonii acetatis being given during the day, with Dover's powder, when required, at night. On December 27th, patient had three watery dejections, and, believing that nature was thus indicating an outlet for the effusion, I ordered her to take half an ounce of epsom salts, dissolved in as little water as possible, the first thing the next morning — the treatment laid down by Professor Hay. This produced twelve loose dejections, which left the patient feeling weak, but breathing much easier, the respirations falling from 34 to 24 per minute, and the apex of heart swinging back almost to its normal position.

From this time on there was an improvement in all the signs, till January 8th, a little over three weeks from her first attack, when she was able to go out. At this time, there was still dulness and diminished respiration over the lower half of the right back, due, probably, to the thickened pleura.

From the above cases, and from the numerous authorities whom I have consulted, and to whom I am indebted, I would draw the following conclusions:

That acute pleurisy with effusion runs a certain more or less definite course, and cannot be aborted by any of the remedies now in use; and that the treatment, during the first ten or twelve days of the disease, should be purely symptomatic, including, by that term, the use of the aspirator, if required, as well as the administration of drugs.

At the end of that time, when the effusion seems to have reached its height, and the fever is beginning to abate, the treatment by saline cathartics, first introduced by Professor Hay, and recently recommended by Professor Osler, seems to be the most successful. This treatment consists in giving a concentrated solution of the salt at such a time when the intestinal canal may be supposed to contain little, if any, fluid. The usual plan is to tell the patient to take nothing liquid after supper, and to take, the first thing the next morning, about half an ounce of the sulphate of magnesia, dissolved in an ounce of water, and not to drink anything afterwards till dinner. This usually causes numerous watery dejections, with a subsequent diminution in the amount of the effusion. Should this not be the result, I would order an ounce of the magnesia, to be taken the next morning. Should the effusion still remain the same, I would aspirate without further delay.

In cases of chronic effusion, if no urgent symptoms were present, as marked dyspnœa, cyanosis, irregular or very feeble pulse, I would try the saline cathartics first, and then aspiration.

I believe that every case of pleurisy with effusion should be watched as carefully as we do a pregnant woman with placenta prævia, having the aspirator in working order, and ready for use at an instant's notice, bearing in mind that any effusion, large or small, is bad for the patient, and may suddenly become dangerous with but little warning, while aspiration, thanks to Dr. Bowditch, has been proved to be harmless.

As there are no signs of an effusion which may not be simulated by other morbid conditions of the chest, and this is especially true in children, where physical examination is often misleading, owing to imperfect lung-expansion, every aspiration should be preceded by an exploratory puncture, using the ordinary hypodermic syringe, with a long, stiff needle, to avoid the danger of its breaking within the chest.

In these days of bacilli and micrococci, it would be needless to say that all instruments should be properly disinfected before using, thus avoiding many of the dangers formerly ascribed to the admission of air within the chest.

The aspiration, as Dr. Bowditch has taught, should be slow and gradual, not removing more than two or three pints at a time, and ceasing at once when the patient complains of any distress. It should be performed without ether, the puncture being made below the angle of the scapula, or in the middle axillary region, with the patient in a sitting position, unless there is cardiac weakness, when the recumbent position is to be preferred.

The dangers commonly ascribed to aspiration come, I believe, either from its being improperly performed, or from its being too long deferred. With proper precautions, I know of no contraindication to its employment. The reflex paroxysmal coughing often following aspiration may be relieved by an injection of morphine subcutaneously.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES P. STRONG, M.D., SECRETARY.

APRIL 4, 1887, DR. BOLLES in the chair.

DR. M. H. RICHARDSON presented a paper upon

A SERIES OF ABDOMINAL OPERATIONS.[1]

DR. MIXTER thought the entire absence of any septic element in these cases was evident. In the last case, the accident might have been due to tenseness of the recti muscles, due to insufficient etherization. The manner of treating the pedicle by an elastic ligature, although common in Germany, was not used here.

DR. FITZ said it was more probable that the twist occurred during reaction than at time of operation, even if it were the cause of death.

DR. DAVENPORT alluded to the success attending cases recently reported, in which thorough evacuations were secured by Seidlitz powder and enemata — a practice directly the opposite from the universal employment of opium.

DR. RICHARDSON thought the length of the incision was not an important factor in fatality. The rule should be to make an incision large enough for easy delivery of the tumor.

DR. NEWELL said that the true source of trouble in cases where the intestines prolapsed was absence of profound anæsthesia. This is the great advantage we possess in the employment of ether, instead of chloroform.

DR. T. F. SHERMAN presented a paper upon

PLEURISY WITH EFFUSION.[2]

DR. FOLSOM advocated the aspirator, rather than cathartics, and an early, rather than late aspiration. With reference to the occurrence of tuberculosis secondarily, he cited two autopsies: one of a lady in middle life, who had double pleurisy, when five years old, on the right side. She was tapped, resulting in

[1] See page 225 of this number of the Journal.
[2] See page 228 of this number of the Journal.

an empyema with permanent opening; on the left, nothing was done. Both *lungs* were sound, but the *pleura* completely adherent. The second case was a lady who, twenty-five years before, had an empyema with permanent opening — a very tedious case, but the lung was perfectly sound.

Dr. Bowditch said that he would not usually wait over a fortnight before aspirating, and if the quantity were large, causing dyspnœa, would aspirate at once.

Dr. Otis said that, as one could not foresee at what moment serious trouble would arise, perhaps fatal, it seemed to him the wiser course to aspirate at once, if the amount were large, without delaying for dangerous symptoms to come on.

Dr. Forster said that his experience showed the rapid recurrence of the fluid after it had been diminished by salts.

Dr. Bowditch said that in his early experience, before days of antisepsis, permanent openings made tedious cases, and often unfavorable results, but he could not admit that simple pleurisies were tubercular. He thought the prognosis was unfavorable if the lung did not fully expand in a few days.

Dr. F. C. Shattuck alluded to the increasing number of German and French authorities who maintain the great rarity, or absolutely deny the existence, of pleurisy as a primary disease, holding that the cases which have hitherto been so generally considered as such are really only symptomatic of tuberculosis. This view we are not as yet, certainly, prepared to accept in America. Whether this view is true or not, it is incumbent on us to follow up our cases of pleurisy with effusion carefully, and not consider them as completely recovered as long as expansion of the lung is imperfect — a condition which seems distinctly to predispose to the development of mischief in the lung itself.

He also spoke of a case reported by R. Douglas Powell in the last edition of his book on "Diseases of the Lung and Pleuræ." A London policeman had been the subject of, to his knowledge, a large, serous effusion for five years, and was quite equal to his duties. Tapping had been practised several times, but the fluid promptly re-accumulated, and it was thought wiser to let him alone. If the lung is completely compressed, and is represented by simply a fibrous cake, as would seem to have been the case in this policeman, there is probably less danger of tuberculosis than in the far more frequent cases of partial re-expansion.

Dr. M. H. Richardson said he was particularly interested in that part of the paper which was devoted to the question of removing the effusion by surgical means. He called attention to the importance of thorough disinfection of the needle before its introduction into the pleural cavity. It should not only be carefully washed and soaked in an antiseptic solution immediately before its use, but it is well to draw into the receiving bottle a quantity of antiseptic fluid, and then, having turned the cock, thrust in the needle, now full of fluid itself. Great importance should be given to this disinfection, because the serous effusion is such a good medium for the growth of germs, and, therefore, so liable to become purulent.

With regard to the question of tuberculosis as a cause of all cases of pleurisy, the experience of the speaker clinically was that a direct family history of tuberculosis in the patient's near relative always rendered the prognosis extremely doubtful as far as the expansion of the lung was concerned. Without an exception, the lung has failed to expand after the operation of permanent opening has been done, if there was any such family tendency. It was his experience that such cases run more frequently from a pleurisy into an empyema, and never fully recover, than after permanent opening, unless the operation is supplemented by others for the collapse of the chest-wall (either by the operation of Estlander, Schede, or something similar). Dr. Richardson was convinced that, in certain rare cases, it is best to make free drainage, even where the effusion is serous: First, in a very acute case where the fluid is effused with great rapidity, and after aspirations without relief, the patient is in danger from the violence of the constitutional disturbance; and the other class is where a chronic effusion shows no sign of abatement after repeated tappings. In the latter class, there is the hope that the lung may be made to expand, and thus obliterate the pleural cavity; and, on the other hand, there is the constant danger of secondary changes in the partially-collapsed lung. Yet, in such cases, the prognosis and treatment depend much on the family history.

In the speaker's experience and opinion, the immediate danger of free incision is less than that of aspiration. The reason for this is seen when we consider the difference of pressure in the two operations. In aspiration there is exerted a powerful suction, which affects the thoracic contents without any possibility of a safety-compensation, so to speak. The collapsed lung must expand, or the sound one must become overdistended, and the heart moved correspondingly. In free incision, on the other hand, there is never any pressure brought to bear till the dressings are applied, and then it is very gentle and gradual in its working. The air is all ready to enter and take the place of the escaped fluid the moment the lung has expanded all it will from its own elasticity. Clinically, this is seen in every case of permanent opening, especially when it is done without making the patient unconscious. There has never been any complaint of distress, while it is the rule in aspiration.

AMERICAN DERMATOLOGICAL ASSOCIATION.

Eleventh Annual Meeting.

The Eleventh Annual Meeting of the American Dermatological Association was held in the Hall of the State Medical and Chirurgical Society, Baltimore, August 31, September 1 and 2, 1887.

WEDNESDAY.— FIRST DAY.— MORNING SESSION.

The Association was called to order by the President, Dr. H. G. Piffard, of New York. The first paper was entitled

TOXIC EFFECTS OF IODOFORM,

by Dr. R. W. Taylor, of New York.

The author reported the details of twenty-four cases, nine of which came under his personal observation. Sixteen of these cases were accompanied by constitutional disturbances, while in nine the rash existed alone without any apparent systemic symptom. A large number of cases have been reported in which toxic constitutional effects have followed the use of iodoform. It is evident that the toxic effects of iodoform are more frequently manifested by systemic irri-

tation than in cutaneous manifestations. The drug may set up inflammatory disturbance of the skin without apparent constitutional reaction.

The skin affections may be classed under the general head of dermatitis, but for the sake of accuracy may be further subdivided according to their relative frequency, into erythema, eczema and purpuric spots. The erythema due to iodoform, may present many of the features of similar eruptions. Its mode of invasion is prompt and extension rapid. It may commence at the point where the application has been made, or other patches of erythema may begin in other parts and extend to meet that from the original point. Erythema may follow from simply smelling the iodoform. The eruption completes its evolution in a few days, and under favorable circumstances this eruption rapidly undergoes involution, behaving much as an ordinary exanthematous eruption. Various forms of erythema have been noted. Sometimes it is very superficial. In other cases it is still superficial, but of a deep red hue, and may be termed scarlatiniform. In exceptional cases, usually those presenting grave constitutional symptoms, the erythema presents points of resemblance in hue and brauny feeling, to erysipelas. Other cases may be placed under the head of erythema multiforme.

The eczema resulting from the use of iodoform is usually of severe form and rapid evolution. It may begin at the point of application or in parts at a distance. It may also result from simply smelling the drug. Its character is pronounced from the first. A large surface is involved, and in all respects it is similar to ordinary eczema madidans. The involution is, as a rule, almost as rapid as the evolution, if the drug is removed. In some instances, however, the eruption shows a tendency to become chronic. It is usually amenable to treatment. Eczema occurred in nine of the twenty-five cases reported.

The time of the appearance of the eruption was noted as follows: in twelve cases, it began within a few hours, or within the first day; two, on the second day; three, on the third day; one, on the ninth day; one, on the twelfth day; and two, on the fourteenth day. This is in contrast with the statistics of the onset of the symptoms where systemic poisoning results. In the majority of these cases the morbid symptoms begin in the second week. As a rule, it may be stated that in proportion as the rash is slow in appearing, so are the concomitant symptoms severe. Statistics seem to show that the cutaneous manifestations are most frequent in youth and middle age, while the systemic symptoms occur most frequently in the aged. The erythema appearing upon the hands of dressers in hospitals as a result of the direct contact of the iodoform, was regarded as being related to the ordinary hyperæmia induced by mustard and other irritating applications, and not to be considered as belonging to the class of cases described.

DISCUSSION.

DR. J. N. HYDE, of Chicago. I have seen the eczematous form of eruption, and also erythema multiforme, and in one case a bullous type of eruption resulting from the use of iodoform. This occurred in a young man who had an operation performed for necrosis of the tibia. Iodoform was used in the dressing of the wound. The recovery was complicated with recurrences of erythema upon the surface of the body. This occurred in the form of large areas of a vivid bright color, afterwards becoming dull. Scattered over these surfaces were large bullæ containing a clear transparent fluid, and when ruptured produced superficial excoriated surfaces. The condition was finally traced to the iodoform application, and within ten or twelve days after the discontinuance of the iodoform, the eruption disappeared and did not recur.

I would dismiss from this category all cases in which iodide of potassium is given internally at the time that the iodoform is employed externally. I suspect that in these cases where the eruption occurs, it is due to the iodide of potassium, for we see occasionally cases in which iodide of potassium has been taken for a certain period without unpleasant effects, suddenly present manifestations of iodism as the result of some transitory condition, as change of climate, or of temperature, etc.

DR. J. C. WHITE, of Boston. I have seen a number of cases of eruption due to the free use of iodoform in the treatment of surgical injuries. I have never seen systemic manifestations resulting from its use in cases where there was dermatitis. The form of eruption has varied from simple hyperæmia to a vesicular form, in most cases going no further. In occasional instances there appeared a furuncular form of inflammation, due possibly to mechanical obstruction of the cutaneous follicles by particles of the powder. The eruption is almost always found in the immediate vicinity of the point of application. Where the remedy is applied in the form of a powder, it may easily be transferred to other parts of the body and thus cause an extension of the eruption. I have never seen any affection of the mucous membrane resulting from the use of iodoform, nor have I seen any purpuric eruption follow its use.

DR. R. W. TAYLOR, of New York. With reference to Dr. Hyde's remark in regard to the influence of iodide of potassium in those cases where it was administered in connection with the local application of iodoform, I would state that, in one case seen by me, the eruption came on when the patient was not taking iodide of potassium, and was relieved when the iodide was given. In another case, the patient (a physician) thought that the eruption was worse when he was taking iodide of potassium, but the eruption always promptly followed the use of iodoform, even when no iodide was taken.

A CLINICAL STUDY OF ERYSIPELAS IN CHILDREN,

by DR. I. E. ATKINSON, of Baltimore.

The author considered erysipelas to be a contagious, infectious disease. It has not yet been determined whether it is due to one special micro-organism, or whether it may be produced by several. The study of the affection, as it occurs in children, offers some opportunities for the solution of this question. During the first month erysipelas is extremely fatal, but the mortality gradually diminishes up to the end of the first year. The fatality at this period of life is probably to be attributed to its dependence upon the poison of puerperal fever. The author reported the detailed histories of three cases of erysipelas in young children. In two of these cases a cellular, board-like induration occurred as the result of intense œdema and cellular infiltration. In neither of these cases was there suppuration. The speaker thought

that erysipelas should be considered the expression of the effect of one of a number of specific causes, and, in that sense, should be regarded as a symptomatic inflammation.

DISCUSSION.

Dr. J. C. White, of Boston. The author alluded to erysipelas as a contagious disease. Does he personally know of a case in which it was directly transferred from one person to another? He also referred to the use of the tincture of the chloride of iron in the treatment of the disease; does he regard this as producing any specific therapeutic action?

Dr. I. E. Atkinson. Personally, I have not seen an instance of the direct contagiousness of erysipelas, but there are a number of well-authenticated cases on record. I cannot say that the tincture of the chloride of iron is a specific, but, in my experience, it has had a more favorable influence on the course of the disease than any other remedy that I have employed.

Dr. J. C. White, of Boston. I have never seen a case of facial erysipelas transferred from one individual to another. If at all contagious, it must be so with extreme rarity. I regard the tincture of the chloride of iron and all other internal remedies as useless in the treatment of this form of erysipelas. For five years, I have given no internal medicine in the treatment of erysipelas, and I have not seen a case in which the erysipelatous eruption did not disappear in from five to ten days. In my experience, infantile erysipelas has been so wholly unlike in its clinical aspects and in its course, with or without treatment, from ordinary traumatic erysipelas, that it seems to be quite a distinct disease.

Dr. J. N. Hyde, of Chicago. I have seen one case which seemed to indicate the contagious nature of erysipelas. A young mother, soon after confinement, had her ears pierced for ear-rings. This was shortly followed by typical erysipelas, spreading over the face and scalp. Soon the nursing child was affected with the disease, and presented typical erysipelas, from which it shortly died.

I agree with Dr. White that the tincture of the chloride of iron is useless in the treatment of this affection, although I consider it harmless.

Dr. I. E. Atkinson, of Baltimore. In those cases of erysipelas which may be termed septic, whether the disease depends upon ordinary septic poison or not, I have no doubt that benefit is derived from the administration of the tincture of the chloride of iron in large doses — as much as half-a-drachm, three or four times a day.

LEUCOPATHIA UNGUIUM — A PECULIAR AFFECTION OF THE NAILS,

by Dr. R. B. Morison, of Baltimore.

The ordinary white spots found upon the nails are well known. These are gradually forced to the outer edge of the nail by the growth of new nail behind. The time occupied in this process varies from four to six months. These spots are usually irregular in shape. A young lady, twenty years of age, recently came under the author's observation, in whom these spots presented a uniform appearance. Examination of the nails showed white bands, one-sixteenth of an inch in width, extending across the nail from border to border. The nails were perfectly smooth, and, in other respects, normal. The general health was good, and there had been no acute disease. These white bands across the nail had been regularly appearing for many months. During the previous summer, the lines had disappeared almost entirely. The toe-nails were not affected, and the hair was not gray. Portions of the nails were secured, and subjected to microscopical examination. Sections were made, cutting the white lines at right angles. By direct light, the lines appeared of a pure-white, while the rest of the section was of a dark color. The application of acetic acid and other agents caused a gradual disappearance of the lines. Canada balsam also caused their rapid disappearance. It, therefore, seemed plain that these white lines were due to air-spaces in the nail, the disappearance being caused, in the one case, by the swelling of the adjacent cells, induced by the acetic acid, and in the other, by the filling of the spaces with the Canada balsam. Examination of several white spots gave similar results.

OBSERVATION OF THREE CASES OF SIMULTANEOUS HAND-AND-FOOT-DISEASE,

by Dr. James Nevins Hyde, of Chicago.

Case I. C. B., aged nineteen years, came under observation in May, 1887. Family history was good. He denied all specific disease. Three years previously, he had noticed the first signs of the present affection upon the fingers, and later, on the toes. The disease then extended to the palms of the hands and the soles of the feet. The local affection had gradually increased, and he complained of the stiffness thereby induced. The free border of the nails was tilted away from the finger, and the space thus left was filled with hardened matter. The substance of the nail was dry and rugous. He had recently noticed some sweating of the hands. The palms of the hands and the soles of the feet presented a condition of tylosis. The nails of the toes were tilted from the phalanges, and presented a condition similar to that seen in the nails of the finger. There was also bromidrosis.

Case II. A female, aged twenty-four years. Family history good. The patient presented tylosis of the hands and feet, which continually recurred. Careful examination showed the general condition to be fair. The pulse was unusually slow, being fifty per minute in the sitting posture. The hands were cold, and bathed with profuse perspiration. The finger-nails were somewhat rugous. The nails were tilted from the fingers, and the space filled with grayish masses. The same condition existed in the toe-nails. The palms of the hands and the soles of the feet were simultaneously involved, showing callosities. Every six or eight weeks, there was a reproduction of the masses on the soles of the feet. At no time did the tissues beneath these masses present a sound appearance. Treatment with various measures, continued over a long period, had no apparent effect.

Case III. A male, aged twenty-eight years, with a good family history, and no history of syphilis. For ten years, had noticed some numbness of the lower extremities, especially marked at night. There was entire absence of hair on certain parts of the lower extremities. He stated that, fifteen years before, he had been struck on the head with a brick, and that a few years before coming under observation, an operation had been performed upon the head, the exact nature of which he could not state. The hands and feet were habitually cold. Broad vertical areas, chiefly on the outer aspects of the limbs, were found,

in which not a single filament of hair could be detected. Two of the finger-nails of the right hand showed marked vacuolations.

The above papers were discussed together.

DISCUSSION.

DR. T. A. DUHRING, of Philadelphia. I do not recall a case of white spots upon the nails in which the distribution was as uniform as in the case described by Dr. Morison. I have, however, met with cases calling for treatment. I have regarded the affection as dependent upon a want of nutrition in the nail-tissues, and, with that view, have employed arsenic, with satisfactory results. This acts upon the nervous system, improving the nutrition of the whole system, and of the finger-nails in particular.

DR. P. G. UNNA, of Hamburg. With reference to Dr. Morison's paper, I would say that we know from the labors of various investigators that the presence of air in the horny tissues is always a secondary phenomenon. The horny masses must be changed before they will allow the entrance of air. These white spots in the nails are analogous to medullary substance.

I have seen cases similar to those described by Dr. Hyde where the affection was not one simply of the nails, but also of the hands and feet, and I have allied them with eczema. My principal reason for so doing has been that in some cases, I have seen combined with the disease of the hands, patches of eczema on various portions of the body.

DR. R. W. TAYLOR, of New York. I should regard the cases described by Dr. Hyde as ordinary cases of tylosis of the hands and feet. This may occur idiopathically, without apparent cause; or as a result of chronic eczema or as a result of chronic syphilitic psoriasis.

DR. LE GRAND N. DENSLOW, of St. Paul. I am not in accord with Dr. Hyde in his view of the nature of the cases that he has described. I have regarded such cases as instances of callosities. With reference to treatment, I would say that in my last case in the person of a hotel porter, who was unable to perform his duties on account of the tender condition of the soles of the feet, I first removed the callosities by the application of a saturated solution of salicylic acid in collodion, and then made a false sole for the feet by the application of belladonna plaster spread upon kid. By this means he is able to attend to his work in comfort.

DR. L. D. BUCKLEY, of New York. I have under my care a patient who presents a condition of the nails very similar to that described by Dr. Morison. She is a sufferer from gout, and from her family history I considered that these lines were possibly gouty deposits. I think, however, that Dr. Morison has shown their true nature.

I agree with Dr. Taylor in considering the cases reported by Dr. Hyde, as closely allied in their nature to cases of eczema. In the treatment of these cases I have derived considerable benefit from keeping the part constantly macerated by the use of an oiled-silk lining sewed into an ordinary stocking and worn constantly, night and day.

DR. E. WIGGLESWORTH, of Boston. I have now under treatment, a case similar to those described by Dr. Hyde. I have regarded it as a case of tylosis. In the treatment, I have employed a twenty per cent. solution of salicylic acid in soap-plaster until the callosities were removed. I have then dressed the parts with equal parts of belladonna and mercurial plaster, spread on kid. Regarding the condition as dependent upon lowered nutrition, I also employed tonics with good effect.

DR. G. H. TILDEN, of Boston. In connection with Dr. Morison's paper, I would mention a case which I recently saw. It was an instance of two nails growing on one finger, one above the other. The patient had one year ago met with an accident which destroyed the nail and evidently split the matrix into two halves, and each half of the matrix had produced a separate nail.

The President, DR. H. G. PIFFARD, of New York. The affection described by Dr. Morison, is one which in its mildest form, we are all more or less familiar. The most aggravated case that I have seen has come under observation within the last two weeks. This case presents fully as extensive leucopathies as the case reported to-day, although not so regularly distributed. This condition is analogous to leucopathia of the hair, in which I have satisfied myself that the condition is due to fatty degeneration of the cells and subsequent absorption of the fat. In the case of the nail after the absorption of the cells which had undergone fatty degeneration, the horny nature of the tissue would prevent closure of the cavity which would remain filled with air.

DR. J. N. HYDE, of Chicago. I would merely state that like Dr. Taylor and Dr. Bulkley, I first regarded these cases as instances of tylosis, but a large experience showed that this view was not correct. In one case, I have watched the course of the disease for three years. The parts have been macerated for days and weeks at a time. I know that there is a constant new formation of these masses. I know that the nails are continually undergoing a similar process. These cases are entirely different from the ordinary forms of tylosis and callosities.

(To be continued.)

[Special Report for the JOURNAL.]

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

FIRST DAY.— MONDAY, SEPTEMBER 5TH.

THE Ninth International Medical Congress, and the first of the series ever held in this country, began its sessions in Washington, D. C., Monday, September 5th. The first suggestion of these gatherings was made at the annual meeting of the French Medical Congress in 1865, and the first of the series was accordingly held in Paris in 1867 during the French Exposition with an attendance of 1,200. The second was held at Florence in 1869, but there were only 357 present. The third was held at Vienna, during the Exposition of 1873, and attracted 671 members of the profession. The fourth was held at Brussels in 1875, with an attendance of 412. The fifth occurred at Geneva in 1877 with only 365 present. At the sixth, in Amsterdam, in 1879, there were 630. The seventh was a notable assemblage of 3,181 persons, and was held in London in 1881. The last one was held in Copenhagen in 1884, with an attendance of 1,350.

GENERAL SESSIONS.— FIRST DAY.

The proceedings of the present occasion were begun in Albaugh's Opera House, a very comfortable and pleasant hall, at 11 A.M., Monday, September 5th. The house was packed, the floor with members of the Congress, and the galleries with interested spectators, among whom were many ladies. Dr. H. H. Smith, of Philadelphia, Chairman of the Executive Committee, called the meeting to order and introduced the President of the United States, who was greeted with enthusiastic applause. President Cleveland, in the following few words, uttered with much distinctness and dignity, formally declared the Congress open:

"I feel that the country should be congratulated to-day upon the presence at our capital of so many of our own citizens and those representing foreign countries, who have distinguished themselves in the science of medicine, and are devoted to its further progress. My duty in this connection is a very pleasant and a very brief one. It is simply to declare that the Ninth International Medical Congress is now open for organization and for the transaction of business."

Dr. Smith then read a list of officers of the Congress, who were unanimously elected, the President, DR. NATHAN S. DAVIS, of Chicago, editor of the Journal of the American Medical Association, then taking the chair. The Vice-Presidents numbered eighty. Other officers were as follows: Secretary-general, Dr. John B. Hamilton, of Washington, Supervising Surgeon-General of the United States Marine-Hospital Service; Treasurer, Dr. E. S. F. Arnold, of Newport, R. I.; Chairman of Finance Committee, Dr. Richard J. Dunglison, of Philadelphia; Associate Secretaries, Dr. William B. Atkinson, of Philadelphia, Dr. George B. Harrison, of Washington, Dr. Frank Banga, of Chicago.

The following gentlemen were then elected as Presidents of the eighteen Sections, into which the Congress is divided:

General medicine, Abram B. Arnold, Baltimore; general surgery, Wm. T. Briggs, Nashville, Tenn.; military and naval surgery and medicine, Henry H. Smith, LL.D., Philadelphia; obstetrics, DeLaskie Miller, Ph.D., Chicago, Ill.; gynæcology, H. O. Marcy, Boston; therapeutics and materia medica, Traill Green, Easton, Pa.; anatomy, Wm. H. Pancoast, Philadelphia; physiology, Jno. H. Callender, Nashville, Tenn.; pathology, Alonzo B. Palmer, LL.D., Ann Arbor, Mich.; diseases of children, J. Lewis Smith, New York; ophthalmology, J. J. Chisholm, Baltimore; otology, S. J. Jones, LL.D., Chicago; laryngology, W. H. Daly, Pittsburgh; dermatology and syphilography, A. R. Robinson, New York; public and international hygiene, Jos. Jones, New Orleans; medical climatology and demography, Albert L. Gihon, Medical Director United States Navy; psychological medicine and nervous diseases, J. R. Andrews, Buffalo, N. Y.; dental and oral surgery, Jonathan Taft, Cincinnati.

Each Section was also equipped with a formidable list of vice-presidents, secretaries, and councillors, which the Secretary-General begged to be excused from reading, and they were taken on trust.

The Secretary-General was then called on for his report, and in response made the following statement of the circumstances attending the formation of this Congress.

He said that it was now a matter of history that in May, 1884, the American Medical Association met in this capital and passed a resolution inviting the Congress to honor America by holding its next session in the United States. At the meeting in Copenhagen, when the question came up for disposition, Washington was selected. The committee having borne the invitation and secured its acceptance returned home and immediately began the work of organization. Shortly before the meeting of the American Medical Association in New Orleans, in May, 1885, the preliminary organization was completed. But it transpired that this committee was unable to form an organization satisfactory to the majority of the members of the Association and after some discussion a resolution was adopted, which authorized the appointment of additional members of the committee, so as to include, in accordance with our American system of representation, one member from each State and Territory, and to these were added one representative from each of the three public medical services. The enlarged committee met in Chicago and a majority of the first committee was present and acted harmoniously with the new committee. In a short time, however, the members of the original committee withdrew and the management was thus deprived of their valued services.

The committee had, therefore, to contend against more than the ordinary difficulties attending so great an undertaking, and its success was due entirely to the zeal and energy of its Chairman, Prof. H. H. Smith, of Philadelphia, and the unflagging interest and industry of the remaining members. The time was too short to adequately speak of the multifarious labors attached to the office of the Secretary-general, but he had to report that at the present moment there remained no unfinished business on the Secretary's table. The work of organization was now complete, and he submitted the programme and the volume of abstracts.

President Davis then introduced the Hon. Thomas F. Bayard, Secretary of State, who made a very good address of welcome. After the usual introductory formalities Mr. Bayard happily continued as follows:

"If letters be a republic, surely science is a democracy, penetrated by no royal road, but open on all sides, and equally to all people who, with humility and intelligence, shall watch and work for light as it is gradually disclosed by Divine Providence for human amelioration. In this democratic republic the brotherhood of science can best realize its importance, for here you will find institutions for the promotion of science in every department, and in none more conspicuously than in that of medicine and surgery, the most important of which are the voluntary gifts of private citizens, who, in the great majority of cases, were painfully limited in their associations with science and letters, who began life at the lowest round of fortune's ladder. Thanks, however, to their energy, they rose without a bar to the highest level of success and usefulness. To the public spirit and benevolence of such individuals is due the endowment on a scale which princes may envy but have never surpassed, of institutions for the intellectual development of all who desire to share and are competent to receive its benefits. Your Congress, gentlemen, is held in the closing year of the first century of our national existence, and what has been done here in the line of educa-

tional equipment is due very little to government assistance. To no system of prescriptive privilege, but to individual enterprise, energy and generosity do we owe what, under God, we now possess of such thing, and non-interference by the government has proved a promotion and not a hindrance to our advancement. We are, however, by no means indifferent to the claims of humanity, nor wanting in respect to the victories of science. We welcome this Congress as the guardians of the sanitation of the nations. In your profession, we recognize the noblest school of human usefulness, and in the presence of the development of the means of cure, the amelioration of suffering, the prolongation of human existence, the endeavor to discover the true principles by which life can be made worth living, we can learn our duties to those whose reward is the still small voice of an approving conscience and the sense of duty accomplished."

The following were the closing sentences:

"The closer relations of mankind which modern invention has induced has been necessarily accompanied by an increased dissemination of disease, and the need is obvious of frequent international conference, that, in the grand sweep of scientific observation, new discoveries in the healing art may be promptly tested and applied in counteraction. Forgive me if, as one of the great army of patients, I humbly petition the profession that in your deliberations nature may be allowed a hearing when remedies are proposed; that her *vis medicatrix* may not be omitted in computing the forces of cure, and that science may be restricted as often as possible to sounding the alarm for nature to hasten, as she surely will, if permitted, to the defense of the point assailed. My duty is very simple, and I fear I have already overstepped its limit, for there was, indeed, little more for me to say than to repeat the words of an ancient dame, whose cottage was close by the battlefield of Waterloo, and being somewhat deaf, and hearing the sound of the artillery when the famous 'pounding' was hardest, thought she heard some one knocking at her door, and simply said, 'Come in!' This may seem an unscientific illustration of auscultation and percussion, but you need not make half the noise of Wellington or Bonaparte, and I can assure you the American people will hear you and heartily say to you, as I do for them, 'Come in!'"

Secretary Bayard's address was followed by responses from several representatives of foreign nations,— Dr. William H. Lloyd, of the British Navy; Dr. Leon le Fort, of Paris, read and spoke in French; Prof. Unna, of Germany, in his native tongue; Prof. Semmola, of Italy, who spoke in Italian; and Dr. Charles Rehrer, of St. Petersburg, who confined himself to broken English.

DR. DAVIS then delivered a lengthy address, taking for his chief thought the important benefits in advancing medical science and saving human life through the instrumentality of our medical society organizations, and the methods by which they may be accomplished.

"It has been tersely and correctly stated," he said in conclusion, "that associated action constitutes the characteristic and predominating power of the age in which we live. It is by associated action that education in its broadest sense, religion, and civilization have been more rapidly diffused among the masses of mankind during the present century than during any other period of the world's history.

"It is by the association of capital, wielded by the associated intellects of the nineteenth century, that highways of commerce have been opened over the valleys, through the mountains, across the deserts, and on the oceans, over some of which the material productions of the nations are borne by the resistless power of steam, and along others the products of mental action are moved with the speed of electric currents, until both time and space are so far nullified that the most distant nations have become neighbors, and the inhabitants hold daily converse with each other from opposite sides of the globe.

"Indeed, it is only by means of such of these highways as have been constructed within the memory of him who addresses you, that you have been gathered in this hall from the four quarters of the earth, and through which an account of your doings may be daily transmitted to your most distant homes.

"I congratulate you on the fact that the profession you represent has taken the lead of all other professions or classes of men, in rendering available these grand material achievements of the age, for cultivating fraternal relations, developing and interchanging knowledge, and planning concerted action for rendering human life everywhere healthier, happier, and of longer duration."

This concluded the forenoon's exercises, and the Congress adjourned until Tuesday, the sections meeting by themselves Monday afternoon, in various parts of the city.

SECOND DAY. — TUESDAY, SEPTEMBER 6th.

The Congress reassembled on Tuesday in the Opera House, there being a large audience of members present, though spectators were much fewer than on the day before. Dr. Austin Flint, of New York, delivered a paper upon "Fever, its Causes, Mechanism, and Rational Treatment," which occupied over an hour. Dr. Flint began by explaining the mechanism of normal heat-productions in the body and then went on to consider how it was affected by the processes of fever. He formulated his conclusions somewhat as follows:

That fevers, in general, are self-limited processes probably due to micro-organisms; that the operation of the causes cannot be prevented but can be modified; that the ataxic symptoms in fevers are secondary to the fever itself; that the use of antipyretic measures internally and externally, improves the condition of the patient; that the pyrexia is accompanied by increased oxidation of tissue without compensation; that therefore alimentation, to make up for the increased oxidation, is the essential thing in treatment; that alcohol is an admirable means of nutrition to this end; that, briefly, while the self-limited pyrexia continues, the chief aim of the physician should be to modify its height by antipyretics to afford the system all possible nutrition.

Dr. Flint's paper was well written and well delivered, and kept the attention of the audience to the end. It was the only paper of the day before the general session, and at its close the meeting was adjourned until the next day.

THIRD DAY. — WEDNESDAY, SEPTEMBER 7th.

A much smaller audience was called to order by President Davis in the Opera House, Wednesday morning. The only paper of the session was deliv-

ered by Dr. Mariano Semmola, of Naples, Italy, on "Bacteriology and its Therapeutical Relations." In compliment to his native country, Dr. Francesco Durante, one of the vice-presidents from Italy, was invited to the chair, the trouble which arose as to the proper representative of Italy on the first day, having been apparently smoothed over. Dr. Semmola's address was quite long, and was delivered in French.

The object of medicine, Prof. Semmola said, is to cure disease. If there were no ills there would be no doctors. To cure diseases we must know the causes that produce them. The external causes are visible and tangible. To discover the internal, invisible causes is the aim of medical science. To solve this problem we must employ the true method of solving all problems—before the experimental method was known doctors lost themselves in fantastic speculations. Upon the discovery of the experimental method serious study began. The marvelous progress of physiology was made in the light of experimental methods. When they had studied the morbid condition, the doctors, instead of going on with the same careful and slow research, wanted to hurry on, because they wanted to cure the sick. But to apply the experimental method and, at the same time, go fast, is in the nature of things impossible. So it happened that while the doctors were making experiments in their laboratory instead of having patience to master these studies, they came at once to a conclusion. They had to make new hypotheses, and without knowing it they began again the same errors that had characterized the medicine of an earlier day. Thus new systems came into the field which were the opposite of the experimental method. If medicine is to progress and be a science it must not leave the experimental method, otherwise there can be nothing but renovations of error and loss of time. Like the labors of Sisyphus, the same errors are repeated without knowing it. The error of the day, Prof. Semmola said, is bacteriology considered as the key to all pathology. Bacteriology should be studied, because it teaches us things in the microscopical world of the existence of which we had never dreamed — a microscopical world in which man lives, and which is filled with enemies of mankind. We drink millions of microbes in water and respire millions in the air. Sometimes these microbes affect us; sometimes killing us in a few hours. When it becomes our duty to cure the sick we must go slowly, because before there has been careful demonstration, if we attempt to deduce a remedy, we are in danger of doing harm to the sick instead of curing them. This is the great harm modern bacteriology does. The doctors at once concluded that the microbes were the cause of the disease, whereas, in many cases, the microbes are but the effects of the disease. We ought to reproduce the disease artificially by this microbe before concluding that it is the cause. The experiments made have not given any satisfactory results, except in anthrax and tuberculosis. Then to conclude hastily that this or that microbe in such and such a disease is the cause, is but to ignore or set aside the experimental method. The demonstration which the experimental method demands in this case would be complicated, because we would not only have to know that the microbe existed, but we would have to know what was the condition of the blood necessary to the culture of that particular microbe, and science tells us that, for the present, this is a problem we cannot solve.

We know very little of the normal condition of the blood, and biological chemistry is still in its infancy. Man cannot separate himself from these millions of parasites among whom he lives. That bacteriology may be a guide in the cure of disease, we must not only learn all we can of the microbe itself, but, more important than all, must ascertain all that is possible of the conditions of the field of culture. But the science of the present knows nothing of the conditions of these fields of culture in living organisms. Thus it is evident that in the present condition of bacteriology, it cannot be taken as a guide for the treatment of internal diseases. The older schools of medicine spoke of organic dispositions, or tendencies to such and such a disease. This expression had no meaning, but it expressed the fact. When bacteriology speaks of a need for a special field of culture it says the same thing, because we do not know of what the field of culture consists. Therefore, this cannot be called a science, because a science is never composed of unknown things: it goes from the known to the unknown. Science must indicate to us perfectly the conditions of the phenomena of disease, and then only can we find a remedy to correspond. Medicine must do the same as physiology, chemistry and physics, and proceed by way of experiments and demonstrated facts. Look at the progress made by physics and chemistry applied to industries. Look at the telegraph, the telephone, the steam-engine, the photograph, etc. The experiments which led to these results were not composed of unknown things and hypotheses, but made up of a chain of which the links were perfectly forged and welded. Thus there is no weak link in the chain, and the phenomena produced by the laws of science are at man's disposal, and can be reproduced at his pleasure.

But he does not command nature; he obeys, learns her laws, and respects them. If he supposes a fact, instead of demonstrating it, the phenomena are not reproduced. When he resorts to hypotheses, the power of man disappears. If nature's laws are not respected, the telephone does not work, the electric light does not flash, the steam-engine stops. The doctor, then, is the only one who pretends to become the master of nature without knowing her laws. Referring, again, to the failure of medicine to follow up a discovery in the scientific way with thorough research and demonstration, and its tendency to accept conclusions quickly, Professor Semmola said that modern bacteriology may lead the way to the most fruitful field of inquiry in the future, but, for the present, it has produced no practical results in the cure of internal diseases. It has not, he claimed, been demonstrated in what measure microbes are the causes of diseases. He, therefore, hoped that the younger generation would continue experimental researches with the thoroughness of method which the great masters have transmitted to us. They must renounce their preconceived ideas in medicine, and interrogate nature, without torturing her. Scientific independence must be preserved. They must not proceed without measuring their steps. He trusted that this desire for scientific independence in such researches would be echoed in this land of independence.

At the conclusion of the address, a vote of thanks was extended to Dr. Semmola, seconded by several delegates on the stage, who made very complimentary references to the value and interest of the address.

This completed the exercises of the general session until Thursday.

MONDAY, SEPTEMBER 5TH.

SECTION OF GENERAL MEDICINE.

This body was called to order Monday afternoon, in the chapel of one of the Congregational churches, by the President, DR. A. B. ARNOLD, of Baltimore, about sixty physicians being present. Dr. Arnold then delivered an address upon

THE PRACTICE OF MEDICINE AT THE PRESENT DAY.

He began by saying that the advance in pathological study had brought with it the result of turning the later-day students into medical scepticism and Nihilism, since therapeutic measures seemed futile to arrest the degenerations the scalpel exposed; and many practices, formerly common in the treatment of disease, had now fallen into disuse. And yet, the speaker insisted, the medical profession still had the power to avert many dangers, to relieve much suffering, and to assist nature, if not to cure disease. In acute febrile diseases, if anywhere, there should be therapeutic unanimity, and yet there were as many methods of treatment as nations. The speaker then took up the treatment of typhoid fever as a type of acute disease, and advised the abstraction of heat by external measures as probably the best treatment. In many diseases, the expectant plan remains the best, and preventive medicine offers a wide field. In spite of advance in certain lines of medical thought, the physician of to-day must continue, as his predecessors did, to treat symptoms, in default of his ability to remove causes. Medicine is still rich in facts, but poor in wise theory. Etiology remains the most obscure chapter in the history of medicine, and medical science is never likely to formulate a system that, laying down rules for the guidance of all cases, would leave little or nothing to the judgment of the practitioner.

The address was referred to a committee for publication, and, at its close, a paper was presented upon

THE PATHOGENESIS OF YELLOW FEVER,

by DR. IGNACIO ALVARADO, of Mexico, which was heard with difficulty, on account of the speaker's foreign accent. He accuses a microbe as directly responsible for the disease, and indirectly for its symptoms.

PROF. WALTER B. GEIKE, of Trinity College, Ontario, Canada, then presented a paper upon

THE PREVALENCE AND PECULIARITIES OF PNEUMONIA IN CANADA,

based upon his own experience and that of practitioners with whom he had been in correspondence. In the western part of Canada, pneumonia was more often a secondary than a primary disease, and was especially associated with typhoid fever. Coming eastward, it was not so prevalent, and occurred as an acute primary affection. In the Province of Ontario it occurs frequently, about spring, and is of a more or less asthenic character. In Southern Ontario, malaria has a marked influence upon it, and in the large Ontario cities, it is of a low type. When allowance is made for all other causes, malaria is a more important factor in the production of a low type of pneumonia than any other. In the Province of Quebec, pneumonia is frequent, acute, sthenic, Montreal, for example, thus contrasting with Toronto. Malaria in this region is practically unknown, and, therefore, the type is similar to the pneumonia of the Northwest. In Prince Edward's Island, Nova Scotia, Cape Breton, and Newfoundland, pneumonia is frequent, sometimes almost epidemic, acute, rarely low. In conclusion, the speaker dwelt a moment upon treatment, endorsing Erichsen's views of the treatment of inflammations — that there should be no uniform plan of treating as such, but that one must estimate rather the constitutional power of the patient, than the precise extent of lung involved.

The paper was followed by a discussion upon the cause and treatment of pneumonia, some upholding, and some decrying the pneumococcus as its cause, and at its conclusion the Section adjourned.

TUESDAY, SEPTEMBER 6TH.

The second day's session was opened, in the afternoon, with an audience of about forty, the morning meeting being omitted.

The first paper was by DR. JOSEPH KOROSI, of Buda-Pesth, Hungary, upon

THE PREVENTIVE POWER OF VACCINATION FOR SMALL-POX,

and was based upon some twenty thousand cases of disease seen in Hungarian hospitals. It contained a vast amount of tabulated statistics, incapable of reproduction in an abstract. Among the deductions from these figures was the belief that not only did a larger percentage of the unvaccinated than of the vaccinated die of small-pox, but a larger percentage died from other causes, so that, so far as his observations went, vaccination was unattended with the dangers claimed by its opponents. Vaccination, in his opinion, was preventive of small-pox.

DR. WILLIAM WHITMARSH, of England, then read a paper upon

VACCINATION,

which, he said, had greatly reduced the prevalence of small-pox. In his opinion, however, it did not prevent it, but modified its virulence.

The same gentleman then presented a paper upon

PASTEUR'S TREATMENT,

in which he described in detail Pasteur's treatment of hydrophobia, and exhibited some of his appliances. He then went on to consider the method from a critical standpoint, taking strong ground against its need or efficiency, and asserting that it was not devoid of danger, the ninety deaths which had occurred among the patients proving the latter statement. The fact was that Pasteur was a first-class scientific chemist, but not a physician. We really know little or nothing of the nature of the virus, or of the antidote. The speaker had suggested to the House of Lords a practical test of the Pasteur method, by giving criminals under sentence of death the option of submitting to experiment in this line. Inoculate a man with the Pasteur virus, and then rub into an open wound on his person the saliva of a rabid dog, and you could form an intelligent opinion as to its protective power. In his opinion, the Government encouraged hydrophobia by compelling dogs to be muzzled in warm weather.

These papers were followed by a discussion upon

the value of vaccination to prevent small-pox, after which the Section adjourned.

(To be continued.)

SECTION ON GENERAL SURGERY.

The meetings of the Section on General Surgery are held in the Congregational Church. The first meeting was held on Monday afternoon, September 5th.

The Section was called to order by the President, Dr. Briggs, of Nashville, Tenn., at 3 P. M., who, in a brief address of welcome, opened the Section for work.

The first paper was on

GUN-SHOT WOUNDS OF THE ABDOMEN,

by Charles T. Parkes, M.D., of Chicago.

No subject has interested surgeons more than the treatment of penetrating wounds of the abdomen. In 1885, the whole number of recorded cases of operation for gun-shot wounds of the intestine was but six. Since 1885, thirty-eight cases have been recorded, with eleven recoveries, and, in future, all cases operated upon should be reported, whether successful or not. Surgical interference in appropriate cases is now the generally-accepted view.

The condition and appearances of the external wound give some indication as to the presence or absence of penetration. A single wound of the abdomen affords a hope that the penetration has not taken place, but it is only a hope. Even the presence of a wound of entrance and exit does not positively indicate injury of the viscera. If there is a tract of tenderness continuous from the wound of entrance some distance, it is fair to infer that penetration does not exist. A large bullet-hole indicates penetration. When in doubt, the wound of entrance should be enlarged. In this way, the presence or absence of penetration can be determined, and, with the usual precautions, this does not increase the danger.

In diagnosis, much value cannot be attached to the subjective sensations. The unusually rapid appearance of tympanites in a region ordinarily dull would indicate escape of gas into the abdominal cavity. Localized dulness in the region of the wound, or in the dependent portion of the abdomen, would indicate hæmorrhage. The presence of blood in the urine indicates wound of the kidney, bladder, or ureter. Shock cannot be relied upon, but, when present, the probability of perforation is very great. The rare phenomenon of fæces in the wound is a positive sign of perforation. The presence of persistent nausea and vomiting also points to injury of the viscera. The absence of pulsation in one femoral artery indicates injury of the iliac vessel.

The following cases were reported:

Case I. A man shot himself twice in the abdomen. He was seen four hours after the accident. The wounds were four inches to the left of the median line, the one one-and-one-half inches above the other. One ball had gone entirely through the abdomen, making a posterior opening just under the last rib. From this there was considerable hæmorrhage. There was moderate collapse. Penetration was demonstrated, and then a median incision was made. Five perforations were found, and closed with silk thread. The left kidney was also perforated by the bullet. It was, however, allowed to remain. The patient did well for twenty-four hours, and then failed rapidly from collapse, due to considerable bleeding from the wounded kidney.

Case II. P. I., age forty-five, was shot in the abdomen. He was not seen until sixteen hours after the injury. The wound was in the right iliac region. On opening the peritoneum, fæcal matter escaped. Only one opening was found, and this was closed with the continuous suture. There were evidences of distinct peritonitis, and the man died sixteen hours after operation. The patient would, in all probability, have recovered if the operation had been done earlier.

In the treatment of gun-shot injuries of the abdomen, incision in the median line is the better in the majority of cases. There are exceptional cases, in which enlargement of the original wound answers the purpose. The continuous suture answers every purpose, and as it can be inserted more rapidly than the Lembert, it is preferable. Silk is preferable to catgut in making the sutures. Where resection is required, two methods of procedure may be adopted: In cases where the mesenteric border cannot be saved, section should be made through the healthy bowel, and a triangular portion of the mesentery also removed. The two portions of the bowel are then brought together and secured with sutures, the first suture being introduced at the junction of the mesentery and intestine. In no case had the author found it necessary to use more than one row of sutures. All raw surfaces should be covered with peritoneum. The second method is applicable in cases where the mesenteric border is not injured. In these cases, the section does not involve the mesenteric border of the intestine. The injured portion is alone removed, and the edges of the healthy bowel brought together with the continuous suture. Where the omentum is injured, the hæmorrhage is often severe, requiring the removal of a large portion of the structure. All slits and lacerations in the omentum should be closed by continued sutures. In perforation of the stomach, there is no difficulty in closing the wound after it is found. Where there is no complication, wounds of the stomach usually heal satisfactorily. In gun-shot wounds of the liver, the surface should be brought together by deep sutures. The same procedure may be employed in the case of the spleen, but where this organ is badly lacerated, extirpation is indicated. Perforating wounds of the kidney call for extirpation. Perforation of the liver, spleen, or kidneys, with a similar injury of the small intestines, greatly increases the gravity of the case, and such cases will usually end fatally. Wounds of the bladder call for suture.

Special stress was laid on the necessity of seeking out all wounded bloodvessels, thus preventing the danger of primary or secondary hæmorrhage. There should be a careful search made for all wounds of the intestine, the bowel being examined in a systematic manner. Tight sutures should be avoided, for these will lead to sloughing and extravasation. If the peritoneal surfaces are laid in contact and kept there for a few hours, adhesions will take place.

AN EXPERIMENTAL CONTRIBUTION TO INTESTINAL SURGERY, WITH ESPECIAL REFERENCE TO THE TREATMENT OF INTESTINAL OBSTRUCTION,

by N. Senn, M.D., of Milwaukee, Wis.

The indications in the treatment of intestinal obstruction are to remove or render harmless the cause

of the obstruction, and the immediate restoration of the continuity of the intestinal canal. Where the cause cannot be removed, it is to be rendered harmless by forming an anastomosis between the portion of bowel below and that above. One hundred and fifty operations were performed on animals. The principal forms of intestinal obstruction were produced artificially, and the attempt was made to devise some new operation, whereby the obstruction may be relieved where the removal of the cause is not possible. The length of time required in the performance of most of the present operations is their great contraindication. By simplifying the method of operation, the author had been able to lessen the time required. To prevent extravasation during the progress of the operation, the author had employed a narrow rubber band, tied round the intestine with sufficient force to occlude it. He had never observed any injurious effects following the use of elastic compression.

The study was first directed to simple stenosis, which was produced by cutting out a semilunar portion of the bowel. Traumatic stenosis from this cause becomes a source of danger from obstruction or from perforation, when the lumen of the bowel is reduced more than one-half. Where excision of the bowel is required for injury, not more than one-half should be taken away. If more is required, circular excision should be resorted to. Longitudinal suturing of wounds on the mesenteric side of the intestine should never be practised, for this is invariably followed by gangrene and perforation, through interference with the blood supply of the portion of bowel corresponding to the vascular defect. In circular constriction of the bowel, the immediate cause of gangrene is obstruction to the venous supply of the bowel and takes place first at the point most remote from the cause of obstruction.

Flexion was then produced by removing a portion of the bowel transversely, and suturing of the wound. It was found that on the convex side, a defect one inch in width could be closed by transverse suturing without causing obstruction by flexion. In such cases the flexion is subsequently corrected by a compensating bulging of the mesenteric side of bowel. Closing of such a wound by transverse suture on the mesenteric side of the bowels, may give rise to intestinal obstruction by flexion, and to gangrene and perforation by seriously impairing the blood supply of the portion of bowel involved. Flexion caused by inflammatory and other extrinsic causes, gives rise to intestinal obstruction only when the functional capacity of the flexed portion of the bowel has been diminished or suspended by the causes which have produced the flexion, or by subsequent causes independent of the flexion.

Volvolus is simply another form of flexion. Volvolus gives rise to symptoms of obstruction, when the causes which have caused the rotation of the bowel, have at the same time produced impairment or suspension of the peristalsis in the portion of bowel which constitutes the volvolus, or when a diminution or suspension of peristalsis follows in consequence of the rotation.

In invagination, one of the most important factors in preventing disinvagination and in inducing gangrene of the intussuscipiens is the accumulation of intestinal contents above the seat of invagination. Spontaneous reduction is not more frequent in ascending than in descending invagination. The immediate cause of gangrene is obstruction to the return of venous blood by constriction at the neck of the intussuscipiens. Ileo-careal invagination, when recent, can frequently be reduced by distentions of the colon and rectum with water, but this method of reduction must be practised with great care and gentleness as over-distention of the colon and rectum is productive of multiple longitudinal lacerations of the peritoneal coat, an accident which is followed by the gravest consequences. The competency of ileo-careal valve can only be overcome by over-distention of the coreum, and is effected by a mechanical separation of the margins of the valve, consequently it is imprudent to attempt treatment of intestinal obstruction beyond the ileo-careal valve by injections per rectum.

In a study of the effects of enterectomy, it was found that in dogs, resection of more than six feet of the small intestines was uniformly fatal, the cause usually being the immediate effects of the trauma. Resection of more than four feet is incompatible with normal digestion, absorption, and nutrition, and often results in death from marasmus. In case of extensive intestinal resection, the remaining portion of the intestinal tract undergoes compensatory hypertrophy.

It was also found that physiological exclusion of an extensive portion of the intestinal tract, does not impair digestion, absorption, and nutrition as seriously as the removal of a similar portion by resection. Fæcal accumulation does not take place in the excluded portion of the intestinal canal.

Objections was made to the various forms of suture used in circular enterorrhaphy for three reasons: first, the time required for their insertion; second, the danger of puncturing the bowel; and third, the interference with nutrition which they cause. The author recommends the use of catgut in preference to silk. It was recommended that a rubber tube be introduced into the bowels and the wound closed over it by two sutures. Ectropia is prevented during operation by compression.

The line of suturing or neck of the intussuscipiens would be covered by a flap or graft of the omentum, in all cases of circular resection, as this procedure furnishes an additional safeguard against perforation. In circular enterorrhaphy continuity of the peritoneal surface should be secured where the mesentery is detached by uniting the peritoneum with fine catgut before the bowel is united. This furnishes better security against perforation on the mesenteric side. A strip of the omentum two inches wide is placed around the line of junction and secured with the sutures.

The formation of a fistulous communication between the bowel above and below the seat of obstruction should take the place of resection and circular interorrhaphy in all cases where it is impossible or impracticable to remove the cause of obstruction, or where the pathological conditions which have given rise to the obstruction do not constitute an intrinsic source of danger. In performing this operation the speaker, after experimenting with plates of various materials adopted decalcified, or partially decalcified bone. This procedure is indicated as a substitute for gastro-enterostomy. The stomach is exposed and a longitudinal incision is made in its anterior aspect, so that a decalcified bone plate, having a sufficiently large opening, may be introduced. This is secured in proper position by sutures introduced in the margin of the fistulous wound. The upper portion of the small intestine is treated in the same way, and the two parts are thus

brought in apposition and secured with silk sutures. In almost every instance where this had been done the result had been favorable. While the ordinary operation requires at least an hour for its performance, this operation can be performed in the space of ten minutes. The same method of treatment is applicable throughout the intestinal canal, where it is desired to form a fistulous communication between the bowel above and that below. If there are indications of sloughing of the bowel, or threatened gangrene, no such procedure should be adopted. An ileo-colostomy, or an ileo-rectostomy can also be done by lateral implantation, the small intestine being introduced into an opening made in the large intestine and secured with a few stitches. In this case, a piece of rubber tubing is inserted into the bowel to keep it patulous. The restoration of the continuity of the intestinal canal by perforated approximation plates or lateral implantation should be done in all cases where circular enterorrhaphy is impossible on account of the difference in size of the lumina of the two ends of the bowel. In cases of multiple gun-shot wounds of the intestine involving the lateral or convex side of the bowel the formation of intestinal anastomosis by uniting two of the openings with decalcified bone plates, should be preferred to the use of sutures as this procedure is equally, if not more safe, and requires less time.

The author had also made certain experiments with reference to the time required for the formation of adhesions. Definitive healing of an intestinal wound is only completed after the formation of a net-work of new vessels in the product of tissue proliferation from the approximated serous surfaces. Under favorable circumstances quite firm adhesions are formed between the peritoneal surface within six to twelve hours, which effectually resist the pressure from within outwards. Scarification of the peritoneum at the seat of approximation hastens the formation of adhesions and the definitive healing of intestinal wounds.

Omental grafts from one to two inches in width and sufficiently long to encircle the bowel, retain their vitality, become firmly adherent in from twelve to eighteen hours, and are freely supplied with bloodvessels in from twenty-four to forty-eight hours. Omental transplantation or omental grafting should be done in every circular resection or suturing of a large intestinal wound, as this procedure favors the healing of the visceral wound and furnishes an additional protection against perforation.

The Section then adjourned.

(To be continued.)

— "Take my advice, and when you get a prescription put up at a drug store never ask how much it is," said one gentleman to another the other day. "Why not?" he was asked. "Because the clerk will 'size you up,' as the boys say, guess how much money you have got, and charge you your pile." — "What do you advise?" — "Just this. When the urbane compounder of medicines hands forth your prescription, just look wise and lay down a quarter. Now the chances are that the drugs in the preparation don't cost over a dime. He will look at the quarter, study a minute, and then make up his mind that he has been foolish enough to sell you the same dose for twenty-five cents at some past time, and he'll take it and not say a word. Lay down a dollar, however, and it will be just the same — no change. Try it and see."

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THE NINTH INTERNATIONAL MEDICAL CONGRESS.

Our readers will find in the present enlarged issue of the Journal, specially prepared reports of the proceedings in the General Sessions of the Ninth International Medical Congress, now in progress at Washington for the first three days, Monday, Tuesday and Wednesday; of the Section of General Medicine for the first two days, Monday and Tuesday; and of the Section of General Surgery for the first day, Monday.

A special correspondent also offers a bird's-eye view of the social and other less strictly professional features of the Congress. These reports and the correspondence will be continued in the next issue; by which time, when the smoke and dust of the conflict have somewhat cleared away, and those of the contestants who survive have departed to listen to the roar of Niagara, a better view can be obtained of the situation and a fairer estimate formed of the net results.

From the latest reports received up to the moment of writing it would seem as if, in point of numbers registered, the Congress had been a success. The number of foreigners present was comparatively small and was said on Thursday to be about 150. The entertainments were carefully provided for and amply appreciated.

The work of the Congress has varied in interest and vigor in the different Sections and in most of them increased in activity somewhat in successive days. The Sections on General Surgery and Obstetrics have presented ample material and excited lively and fructifying discussions.

The medical work of the General Sessions and that of the Section of General Medicine, had up to the date of writing, disappointed expectations, and been scarcely up to what should be demanded of the occasion.

The heart-burnings seem to have exhausted themselves in anticipation, and, with trifling exceptions, an edifying harmony has prevailed.

MEDICAL NOTES.

NEW YORK.

— The Governors of the New York Hospital Society have, it is said, decided upon the removal of the insane department of the institution, the well-known Bloomingdale Asylum, to a more remote position, and it is probable that the vicinity of White Plains, West Chester County, where the Society already owns a farm of some three hundred acres, will be selected. The land and buildings of the Bloomingdale Asylum are valued at from four to five millions, and the entire property of the hospital society is rated as fifteen millions.

— There is now in course of erection at Elmira, an admirably constructed and fully equipped hospital, which is to be known as the Arnot-Ogden Memorial Hospital, and is the free gift of Mrs. William B. Ogden, of New York, to the city of Elmira.

Correspondence.

[From our Special Correspondent.]

LETTER FROM WASHINGTON.

NOTES AND GOSSIP ABOUT THE INTERNATIONAL MEDICAL CONGRESS.

WASHINGTON, Wednesday Evening, Sept. 7, 1887.

MR. EDITOR,— Washington, at this season usually quiet and deserted, this year fairly swarms with doctors, wearing upon their coats the big medal and blue ribbon, the badges of their membership of the International Congress. Walkmen, bellboys, and hotel clerks have grasped the situation, and you hear nothing but "Doctor," "doctor," reminding you of a lot of first-year medical students. The weather is simply charming, albeit a trifle warm, but there is a gentle breeze and the nights are reasonably cool. The local arrangements for the Congress seem to have been well made, the general meetings being held in a handsome and commodious Opera House, conveniently near the hotels. The Sections meet in halls, churches, etc., as near the Opera House as could be expected, usually quite large enough for the numbers the Sections collect, and equipped with the necessary appurtenances. The social interests of the Congress suffer from the fact that Washington in September, is, as Dr. Garnett, of the Committee of Arrangements, put it, practically deserted by a large part of its citizens, but a certain amount of entertainment in this line is provided. The foreign guests are looked after by an excursion to Mount Vernon on Saturday, and on their return they are to be taken to Niagara Falls. These trips can also be taken by American members, if they pay for them, at reduced rates. Besides a reception at the White House and a lunch at the Pension Building, the members of the Congress are invited by Secretary Whitney, of the Navy Department, to a reception at his country residence; there will be several private receptions; the Treasury Building is open for the occasion daily, and various public institutions, like the Government Asylum for the Insane have sent invitations to the Congress.

The first of the social exercises of the occasion was held Monday evening in the shape of a *conversazione* at the United States Pension Hall, which was elaborately decorated for the occasion. There was a very large attendance, but no special ceremonies — a sort of huge promenade concert, of whose opportunities the Washington people very largely availed themselves.

The total registration of members of the Congress up to Wednesday was a little rising 2,500, including about 110 foreigners. As the registration is carried on by letter as well as personally, this is not an exact representation of the actual attendance. Making due allowance for this fact, it is probable that the real attendance is something over 2,000. There are some noteworthy facts in this regard. There are very few New England physicians, a very small representation from New York, and only a part of the Philadelphia men. Some of the Canadian representatives, naturally more familiar with Eastern men, lament the absence of many whom they expected, and were especially desirous to see.

The foreign delegation includes not many men of note. Among the best known are: Dr. Leon Le Fort, of Paris, Surgeon at the Hôpital Necker; Prof. Unna, of Hamburg, Germany, Editor of the *Journal of Dermatology*; Dr. Joseph Korosi, of Buda-Pesth, Hungary, Director of the Hungarian Bureau of Medical Statistics; Dr. T. Grailly Hewitt, of London, the well-known gynæcologist; Dr Mariano Semmola, of Naples, Italy, a Senator in the Italian Parliament; Dr. Apostoli, of Paris; Grant Bey, of Cairo, Egypt; Dr. A. Martin, of Berlin.

Among the few Eastern men of note are Dr. John Homans, of Boston, who came on Monday to read his paper on his results in laparotomy before the Surgical Section, and went back the next day; Dr. Gordon, of the Maine General Hospital of Portland, who was an interested participant in the proceedings of the same Section; and Dr. M. H. Richardson, of Boston, who came Tuesday to read his case of successful gastrotomy.

It will be remarked that among the exercises of the first day was the election of an enormous list of vice-presidents, prepared for the occasion, most of whom were probably at home. A delegate made a courageous attempt to interrupt the cut-and-dried programme and to confine the officers to those in actual attendance, but he was promptly and effectually sat upon by the President.

The exhibition of drugs and medical appliances which has become a part of every medical gathering, is in full blast at the Opera House, and the "sample fiend" is omnipresent. Some of the members will need a trunk to carry off their plunder and will be "stocked up" for a year. It is due to the exhibitors, however, which include about all the large drug houses and instrument makers of the country, to say that their wares made a very large and a very handsome exhibit, at least before the Philistines despoiled them.

Probably not the least enjoyable event to a large majority of the members of the Congress was the reception at the White House on Tuesday evening, by the President and Mrs. Cleveland. The guests were received in the Blue Room, and were announced by Surgeon-General Hamilton to Col. Wilson, who made the introductions. At eight o'clock, when the reception began, there was a line reaching from the door and through the grounds on to the Avenue, and the hour of closing, which had been fixed at nine, was nearer eleven. There were a lot of people who had no connection with the Congress, but who availed themselves of the chance to shake hands with the President and his wife. The Marine Band played, the East Room was very handsomely decorated with flowers and potted plants, and the whole lower part of the house was thrown open. It partook, of course, of the character of large receptions in general, but was on the whole, a very pleasant occasion, marred only by the intrusion of outsiders in overwhelming numbers. After the reception, many of the members went over to the Corcoran Art Gallery, which had been opened for them.

Among the humors of the occasion is a story to the effect that a prominent medical chemist across the sea wrote to the committee of arrangements some time ago that he supposed America would want to come up to England in style, and that as music formed so marked a feature of the London entertainment, it had occurred to him to come over and bring his musical daughter for the moderate sum of a hundred guineas. It is needless to say that the fair *cantatrice* is not here, nor the eminent chemist.

The disadvantages attending the assemblage of a large body of men in a Democratic city, without proper arrange-

ments, have been markedly illustrated. In the first place, it is stated in the Washington papers that there were between four and five thousand people at the gathering at the Pension Hall on Monday evening. As the total registration at that time did not exceed two thousand, it may easily be computed how large was the proportion of outsiders. The next night, at the President's reception, the same spectacle was seen of non-members of the Congress thrusting themselves into a place not designed for them. This was carried to such an extent that many of the foreign guests came and went without seeing the President, unable to obtain entrance without long waiting. The upshot has been, that it was announced at the session of Wednesday that it was feared that tickets to the banquet of Thursday had been improperly obtained; and it was therefore decided to cancel them and issue new ones.

There was an unfortunate incident which marred a little the exercises of Monday. It seems that Dr. Francesco Durante, of Italy, the Governmental representative to the Congress, had been asked to reply to the speech of welcome by Secretary Bayard. When, later, he made some inquiries about the length of his speech, he discovered that he had been set aside to make room for Dr. Semmola. Dr. Hamilton, the general secretary of the Congress, is represented in the papers as saying that Dr. Semmola claimed, that, as an Italian senator, he was the proper person to speak for Italy, and, that, if his claim was not conceded, he would withdraw. As the Committee were already short of papers, they yielded to Semmola, and Dr. Durante therefore wrote a sharp letter, withdrawing from the Congress. The affair was smoothed over, however, as Durante presided over the Congress on Wednesday, while his confrère, Semmola, read his paper.

Another tempest in a tea-pot arose from the fact that Dr. Murphy, of Dublin, fancied he was slighted by not being invited to a banquet to the foreign medical editors, Monday evening. He also wrote a letter of withdrawal, but the committee explained to him that the banquet was a private affair, not officially connected with the Congress.

There is a wide difference in the programmes and interest of the various Sections, and the attendance upon them. For instance, the Section devoted to military surgery runs over with papers and has a definite programme, which is carried out so far as time will allow. The Sections on general surgery, gynæcology, diseases of children, and others, perhaps, are well attended, and evoke spirited discussions. The section on general medicine is pretty much a failure. There is no regular programme, the promised papers are few, and those that materialize are fewer yet. The morning sessions of this Section have been given up, for lack of papers and attendance. This may partly be attributed, perhaps, to an essential lack of interest in the subject itself. As a Canadian physician put it, "We are all now surgeons or specialists, we stick to the rectum or what not,— we are no longer doctors."

The programme of the general sessions has been much changed, also, on account of the lack of material for their continuance. Dr. Luteaud, of Paris, and Dr. Neudörfer, of Vienna, who were booked for addresses, on "The Influence of American surgeons on Gynæcology in Europe," and on "Military Surgery," respectively, failed to come to time. So that instead of two addresses daily before the general session, there was but one.

Berlin will probably be chosen for the place of meeting of the next Congress.

(To be continued.)

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 27, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	698	308	30.80	18.48	22.12	1.54	4.20
Philadelphia	993,801	418	197	21.60	3.32	12.24	4.80	7.20
Brooklyn	745,108	335	181	31.90	10.73	20.88	1.16	5.51
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	189	88	34.45	9.01	24.38	3.18	1.59
Boston	400,000	207	86	33.13	13.44	22.56	2.40	3.84
New Orleans	242,750	97	31	14.42	16.48	5.15	2.06	2.06
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	94	34	22.26	18.02	11.66	6.36	2.12
Pittsburgh	210,000	81	33	31.94	7.38	9.84	9.84	6.15
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	93	60	28.08	11.88	23.76	—	2.16
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	20	10	35.00	15.00	20.00	5.00	—
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	11	7	36.36	—	27.27	—	9.09
Worcester	68,383	26	11	30.80	7.70	7.70	7.70	3.85
Lowell	64,051	32	13	31.25	12.52	15.62	9.39	3.13
Cambridge	59,660	24	12	29.12	—	20.80	4.16	4.16
Fall River	56,863	26	9	34.62	3.85	11.55	11.55	—
Lynn	45,861	10	3	20.00	30.00	20.00	—	—
Lawrence	38,825	15	8	26.64	6.66	13.33	13.33	—
Springfield	37,577	8	3	50.00	12.50	25.00	25.00	—
New Bedford	33,393	13	5	30.76	7.69	7.69	—	23.09
Somerville	29,992	14	6	42.84	7.14	35.70	—	—
Salem	28,084	11	2	36.36	9.09	—	27.27	9.09
Holyoke	27,894	7	7	100.00	—	100.00	—	—
Chelsea	25,709	4	1	25.00	25.00	25.00	—	—
Taunton	23,674	4	—	50.00	—	—	25.00	25.00
Haverhill	21,795	8	3	12.50	37.50	12.00	—	—
Gloucester	21,713	4	2	—	25.00	—	—	—
Brockton	20,783	5	3	20.00	—	20.00	—	—
Newton	19,759	5	2	—	—	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	13	3	38.45	—	38.45	—	—
Waltham	14,609	5	2	20.90	20.00	20.00	—	—
Newburyport	13,716	4	2	50.00	25.00	50.00	—	—
Northampton	12,896	10	4	40.00	20.00	40.00	—	—

Deaths reported 2,281: under five years of age 1,035; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 731, consumption 257, lung diseases 112, diphtheria and croup 89, typhoid fever 79, malarial fever 32, whooping-cough 27, scarlet fever 11, cerebro-spinal meningitis nine, puerperal fever seven, measles three, erysipelas two. From malarial fever, New York 10, Brooklyn seven, Philadelphia and Baltimore five each, New Orleans four, Nashville one. From whooping-cough, Philadelphia six, Boston and Baltimore five each, New Orleans, District of Columbia, Milwaukee, Nashville and Fall River one each. From scarlet fever, New York four, Brooklyn three, Boston two, Pittsburgh and Fall River one each. From cerebro-spinal meningitis, Worcester three, New York, Pittsburgh, Milwaukee, Lowell, Somerville and Taunton one each. From puerperal fever, Pittsburgh three, Brooklyn two, New York, District of Columbia and Fall River one each. From measles, Boston two, Philadelphia one. From erysipelas, New York and Brooklyn one each.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending August 13th, the death-rate was 23 7. Deaths reported 4,191: infants under one year of age 1,764; acute diseases of the respiratory organs (London) 175; diarrhœa 943, whooping-cough 104, measles 78, scarlet fever 57, fever 39, diphtheria 29.

The death-rates ranged from 13.2 in Halifax to 31.4 in Manchester; Birmingham 24.8; Hull 26.2; Leeds 21.0; Leicester 25.1; Liverpool 24.9; Manchester 31.4; London 23.3; Newcastle-on-Tyne 30.2; Nottingham 21.9; Sheffield 24.6.

In Edinburgh 19.6; Glasgow 18.5; Dublin 31.5.

The meteorological record for the week ending August 27, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Aug. 27, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ..21	29.96	69.0	78.0	59.0	66.0	46.0	65.0	59.0	N.W.	S.W.	S.W.	8	13	13	C.	C.	C.		
Monday, ..22	29.82	69.0	76.0	65.0	67.0	66.0	67.0	93.0	S.W.	S.W.	N.W.	3	12	8	R.	O.	R.		
Tuesday, ..23	29.82	69.0	68.0	58.0	97.0	97.0	100.0	98.0	N.E.	N.E.	N.E.	5	12	11	R.	O.	R.		
Wednes., ..24	29.81	61.0	64.0	58.0	100.0	100.0	97.0	99.0	N.	N.W.	N.	10	5	1	G.	R.	O.		
Thursday, 25	29 81	64.0	71.0	59.0	61.0	51.0	49.0	71.0	N.W.	N.	N.	6	12	12	O.	C.	C.		
Friday, ...26	29.86	63.0	72.0	52.0	71.0	45.0	68.0	61.0	N.W.	N.W.	W.	13	21	8	C.	C.	F.		
Saturday,..27	29.86	65.0	73.0	54.0	69.0	49.0	67.0	62.0	W.	N.W.	W.	12	12	2	O.	C.	O.		
Mean, the Week.	29.84	64.4						77.6										30	1.66

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 27, 1887, TO SEPTEMBER 2, 1887

SMITH, JOSEPH R., lieutenant colonel and surgeon. Ordered to report in person to the surgeon general of the army, on September 2, 1887, on business connected with the public service, and on completion thereof to return to his proper station. Par. 9, S. O. 198, A. G. O., August 26, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 3, 1887.

DEAN, RICHARD B., medical director. Detached from duty as member of Examining and Retiring Boards and to Hospital, Chelsea, Mass.

PECK, GEORGE, medical director. Ordered as delegate to International Medical Congress revoked.

SIMONS, M. H., surgeon. Detached from "Constellation" and to the Naval Academy.

ROGERS, B. F., surgeon. Detached from Marine Rendezvous, New York, and to the "Alliance."

FIELD, JAMES G., assistant surgeon. Detached from the "Vermont" and to Marine Rendezvous, New York.

HENRY, C. P., assistant surgeon. Ordered to the "Ossipee."

LUMSDEN, G. P., passed assistant surgeon. To the "Boston."

ATLEE, LOUIS W., assistant surgeon. Restored to duty.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING AUGUST 27, 1887.

BAILHACHE, P. H., surgeon. Granted leave of absence for thirty days. August 26, 1887.

CARTER, H. R., passed assistant surgeon. Granted leave of absence for twenty-seven days, August 25, 1887.

YEMANS, H. W., passed assistant surgeon. Resignation accepted to take effect September 30, 1887, and leave of absence extended to that date, August 24, 1887.

NORMAN, SEATON. Granted leave of absence for six days, on account of sickness, August 27, 1887.

SOCIETY NOTICE.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next meeting of the Society will be held at No. 19 Boylston Place, on Thursday, September 15th, at 4 o'clock, P.M. Paper: "Uterine Fibroma with Pelvic Cellulitis," by Dr. Mary E. Bates, of Newton Centre.

H. J. HARRIMAN, M.D., *Secretary*.

DEATH.

Died in Winchendon, Mass., September 3, 1887, Charles Eliot Ware, M.D., M.M.S.S., of Boston, aged seventy-three years.

BOOKS AND PAMPHLETS RECEIVED.

Regulations and Recommendations of the Board of Health of Quincy, Mass. Quincy, Mass., 1887.

Transactions of the Medical Association of the State of Missouri, at its Thirtieth Annual Session, held at Macon City, Mo., May 10, 1887.

Transactions of the Thirty-Fourth Annual Session of the Medical Society of the State of North Carolina, held at Charlotte, April, 1887.

A Study of the Phenyl-Hydrazin Test for Sugar in Urine, as applied by Ultzmann. By A. K. Bond, M.D., of Baltimore, M.D. 1887. (Reprint.)

Rational Medicine *versus* Empiricism. By B. A. Watson, A.M., M.D., Surgeon to Charity, St. Francis and Christ Hospitals, etc. 1887. (Reprint.)

Surgery, its Theory and Practice. By William Johnson Walsham, F.R.C.S., Assistant Surgeon to St. Bartholomew's Hospital, etc. With 236 illustrations. Philadelphia: P. Blakiston Son & Co. 1887.

Plant Analysis as an applied Science. By Helen C. de S. Abbott, Fellow of the American Association for the Advancement of Science; Member of the Academy of Natural Sciences, etc. Philadelphia, 1887. (Reprint.)

The Treatment of Hemorrhoids by Injections of Carbolic Acid and other Substances. By Silas T. Yount, M.D., Physician of St. Elizabeth's Hospital, Member American Medical Association, etc. LaFayette, Indiana, 1887.

Cuneiform Osteotomy for Anterior Curvature of both Tibiæ and both Fibulæ: Illustrating the great Practical Value of the Electro-Osteotome as a Bone-cutting Instrument, and the Sphenometer as an Instrument of Precision in Bone Surgery — Suturing of the Bones with Kangaroo Tendons — Hydronaphtholized Surgical Dressings — Bruce's Bow-Leg Brace. By Milton Josiah Roberts, M.D., Professor of Orthopædic Surgery and Mechanical Therapeutics, Visiting Orthopædic Surgeon to the City Hospital on Randall's Island, etc. Detroit, Mich.: George S. Davis. 1887. (Reprint.)

Original Articles.

OBSERVATIONS ON THE PUERPERAL PELVIC LIGAMENTS.[1]

BY STEPHEN W. DRIVER, M.D., OF CAMBRIDGE.

Is there a constant and normal relaxation of these during pregnancy and at term?

Does it occur in the non-puerperal woman?

Does it continue after recovery from confinement? More or less during the early and middle life of a woman?

What are the factors that *prevent*, *determine* or *vary* this relaxation? Does this relaxation facilitate delivery?

In the following observations the beginning of an answer to these and other questions will be attempted.

PREFATORY REMARKS.

Dr. Thomas Denman, who saw his first case of relaxation of the symphysis pubis in 1774, remarks, "It was for many centuries a received opinion that these cones, though joined together in such a manner as scarcely to afford any suspicion of a separation, were always separated at the time of parturition, or that there was a disposition to separate. But this opinion has been controverted by many writers. But notwithstanding all that has been said, I know *not* that we are authorized to say that a separation or a disposition to separate prevails universally at the latter part of pregnancy or during parturition. Yet that these effects are often, if not generally produced, may be inferred from the pain and weakness so often mentioned and complained of at the parts where the bones of the pelvis are joined together. We leave the question to be settled by future observations."

Dr. Denman seems to have seen very interesting cases, to have taken a very correct view of the subject, and yet with all his shrewdness he did not hit upon a method of actually testing the separation or mobility of the pelvic bones, but only inferred it from symptoms. On page 76 he says, "The opinion of the separation was chiefly founded on the particular attitudes and positions in which the patient sought relief."

Baudelocque says, page 23, "Such has been in all ages the variety of opinions on this point. It is very certain that the bones of the pelvis *may* separate in labor, but that it does not happen so often as has been thought; and experience demonstrates that far from being common it is very rarely met with."

Finally, "According to these observations, the separation of the bones of the pelvis will appear to be an unnecessary accident."

Dewees says, page 22, "We may adduce the following reasons as conclusive against this relaxation being a natural provision:

"1. It is certain that in cases of autopsy the symphyses were very rarely found to have yielded in the *slightest* degree.

"2. That it is not more frequent in the distorted than in the normal pelves.

"3. Were it an arrangement of nature, the means do not seem adequate to the end; that is, relaxation does not enlarge the diameters.

"4. That where it has been found to have taken place even in a slight degree, it has never failed to create either temporary or permanent inconvenience."

Churchill says, page 40, "From a fair observation of the cases on record, we may conclude that it never takes place as a natural process, but that we occasionally meet with it as an accident."

Playfair, "The ligaments and cartilage become swollen and softened, and the synovial membranes are augmented and distended with fluid."

McClintock, in a note to his edition of Smellie, says, "The slightest physiological degree of separation could not be detected in the living subject by any ordinary modes of examination; and where the separation has been considerable and consequently easy of recognition, very unpleasant consequences with marked symptoms have been present."

Both statements are untrue, for I shall show that a very ordinary "mode of examination" will detect the slightest degree of motion, and in a great many cases a considerable separation, easily recognized, may have no "unpleasant consequences."

MY PREFATORY CONCLUSIONS.

It never seems to have occurred to any of the old or new observers (save one New York man, I believe) to make a test of the actual condition of the pelvic symphyses in child-bed through a long series, say of 1,000 cases; to test these same cases six months after delivery, and also to test all cases of virgins and women before any childbirth.

In the following pages I shall try to give the results of actual tests through a series of nearly three hundred cases occurring in my own practice. It would have been a great aid to deciding this long doubtful question, if, in addition to their admirable series of minute observations, the physicians of the Boston Lying-in Hospital had made this test through their first 1,000 cases.

The ligaments concerned in the following observations are,

1st. The pubic (a); the superior pubic (b); the sub-pubic (c); the anterior pubic and the posterior pubic.

2d. The sacro-iliac (s); the anterior sacro-iliac ligament, a continuous band (b); the posterior sacro-iliac ligaments, a group of four bands.

There also comes into consideration the junction cartilage or inter-packing of the sacro-iliac and pubic joining. "Occupying two-thirds of the length and the posterior third of the centre of the junction of pubes we find a true arthrodial articulation, six lines in length, two in breadth, shaped like an almond, lined by a synovial membrane containing a small quantity of synovial fluid."— *Churchill.*

In testing almost three hundred cases at the puerperal period, I think I have determined the fact that the ligaments of the pubic junction vary very much in their development; in many cases the sub-pubic and anterior especially seem to be a strong, firm and well-developed band making a smooth arch; in others a careful examination would almost lead one to believe that there was no true sub pubic or anterior ligament, but that the joint depended upon the cartilage or membrane to hold it together. This is often the case in delicate women; you can feel the bony structure almost as plainly as in the pelvis I hold here. That a similar proportional development prevails or exists in the sacro-iliac ligaments may be inferred from a study of the skeletons and from certain facts that I have observed. They cannot be tested because they

[1] Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication by the Society.

(the sacro-iliac) are so deeply covered in the overlying tissues. If at the time of confinement these ligaments are relaxed, and if also the interstitial cartilage is deficient or in a soft and undeveloped stage, or infiltrated, then the pubic bones, instead of forming a firm arch, move the one on the other, as the patient turns on the bed, draws up her limbs, or later attempts to stand or walk. This motion is, at the pubes, up and down, and in extreme cases of relaxation, backward and forward. At the sacro-iliac it is pivotal, the sacrum being the fixed point on which the iliac turns.

(Here the reader demonstrated how sometimes the sacrum is the pivot, and sometimes the iliac is the fixed point.)

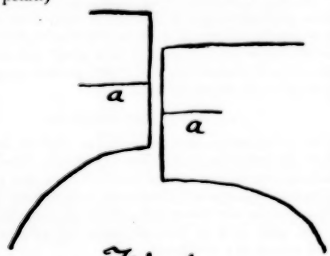


Fig 1

Both sacro-iliac junctions may be relaxed, or only one. In testing the cases following, I have been accustomed to use this method, either immediately after confinement, or within the first three days. While the patient is lying flat on her back, with both legs extended, I pass my forefinger within the vulva, under the arch, pressing back with the end of the finger the meatus urinarius, and thus having the pubic junction resting on the first joint or phalanx, I ask the patient to draw up her leg, first one, and then the other. I can perceive the slightest motion, for there is nothing between the ligaments and my finger but the mucous membrane. The weight of the leg is a strong lever-age, acting through the iliacus and psoas muscles as they pass over the horizontal ramus of the pubes. The internal muscles of the thigh that are attached to the pubes also aid. For instance, as the patient draws up the left leg, the left pubic ramus will be pressed downward, and its motion will be felt, and can be measured by the finger. If the right leg be lifted from the bed, the right pubic ramus will be depressed. When the test is made with the patient standing on her feet, the reverse will be the case; if she stands on her left foot, the weight of the *right* leg and side of the body will carry that side down, and the left pubic ramus will go up; if she stands on her right foot, the right ramus will ascend. This is the most radical test of pubic motion. If the tissues of the mons veneris are thin, the motion can well be perceived with the fingers pressed on the front of the junction, or even grasping it above and below.

The amount of motion that you can determine at the arch is not the measure of the whole motion at the joint; that is, if the pubic bone of the left side, for instance, projects by the other one-fourth of an inch, one-fourth of an inch does not express the whole motion. See the position of this in Figure 1, where *a* indicates the vertical centre of the pubic junction, with the patient standing on her right leg, and the left bone projecting one-quarter of an inch.

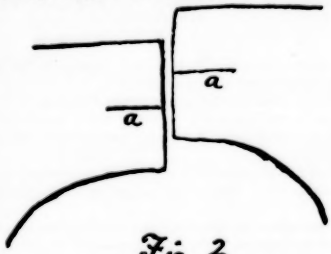


Fig 2

Now let the patient stand on her left leg, and the parts will assume the position of Figure 2, where the right bone projects one-quarter of an inch.

But, however, the vertical centre has not moved back merely to its normal, a distance of one-fourth of an inch, but by that normal, one-fourth of an inch upward, making the whole motion one-half of an inch, or double the measure of projection under the arch.

OBSERVATIONS, FIRST SERIES, 200.

Since January 1, 1878, I have made it a rule to test every case of confinement, if possible, and have recorded the results under the following heads. The series includes 224 cases:

Series (Not tested, 24; Tested, 200)			224
No motion	52	or 26	per cent.
Slight "	62	or 31	"
Marked "	34	of 17	"
1-16 of an inch motion	8	or 4	"
1-8 " "	16	or 8	"
1-4 " "	22	or 11	"
1-2 " "	6	or 3	"
	200		

Requiring treatment, 4, or 2 per cent. Of these, 2 Americans, delicate; 2 Irish-Americans, 1 hardy, 1 delicate; ages from 24 to 32; motion in 3 cases, one-half of an inch, in 1, only one-eighth of an inch.

THIRD HUNDRED CASES.
SECOND SERIES, 300; 25 NOT TESTED.

Firm	16	plus 52	equals 68,	24	2-3	per cent.
Slight motion	25	" 62	" 87,	32		"
Marked "	6	" 34	" 40,	15		"
1-16 of an inch motion	4	" 8	" 12,	4	1-3	"
1-8 " "	15	" 16	" 31,	11		"
1-4 " "	8	" 22	" 30,	11		"
1-2 " "	1	" 6	" 7,	2	1-2	"

Requiring treatment, 4, or 1½ per cent. No motion in 25 per cent. Bones movable in 75 out of 100. Decided mobility, 120 out of 275, or 44 per cent.

Dewees and Baudelocque say that it is rare to find a slight degree of separation.

FIRST SERIES OF 175 DIFFERENT INDIVIDUALS.

American	56	English	14
Irish American	47	Scotch	4
Nova Scotian	6	French	3
Colored	1	Swedish	1
Irish	42	Italian	1

One-half inch motion,	6,	3 3-7	per cent.
One-fourth inch motion,	16,	9 1-7	"
One-eighth inch motion,	27,	14 2-7	"
One-sixteenth inch motion,	7,	4	"
Marked motion,	26,	14 6-7	"
Slight motion,	42,	24	"
No motion,	51,	29 1-7	"

Pelvis was found firm in 51 out of 175, or 29 per cent.; 70 per cent. movable.

PHYSIQUE OF FIRM CASES.

Strong, Robust,	40 per cent.	20
Medium,	34 "	17
Delicate,	26 "	13
	100	Series 50

PHYSIQUE OF MOVABLE CASES, 100 IN NUMBER.

Delicate Physique,	30	
Medium, "	35	(65)
Strong, "	35	
	Series of 100	100

Mrs. G., aged twenty-six, American, of abundant means; third confinement. Seen by me but once before confinement. During the last month was unable to walk well; shuffled in her gait; was unusually large. Taken in labor, November 11, 1873. Found her with os dilated and bed flooded with liquor amnii; yet I ruptured a second membrane and there was a further gush of water. Labor short and easy. On the fifteenth day patient said to me, "What makes my bones crack and snap every time I turn in bed?" "Bones crack! what do you mean? what bones?" I looked incredulous, as doctors do look when they think their patients are talking bosh. "Why, these bones right here," said she, putting her hand on her symphysis pubis. I, of course, put my hand on the junction and made her turn over, first one side and then the other, asked her to draw up first the right leg and then the left. The displacement was excessive, one ramus slipping by the other with an audible snap like the muffled slipping of a dislocated joint into its socket. I was very much astonished, as I had read of such a case but considered its occurrence a most rare and remote possibility. I made the test, as I have before indicated, with my finger under the arch, and it was apparent that the motion was a full half inch. There was great tenderness over the symphysis. I proceeded to treat this case with a strong band of twilled cotton, five inches wide, fastened as firmly about the hips as the patient could bear; this was kept from slipping upwards by two perineal straps one inch wide, stuffed with hair to prevent chafing. This case was so extreme that my patient did not attempt to walk till the fiftieth day. Even then she was inclined to slide her feet along the floor. Inasmuch as she had been unable to go up and down stairs before her confinement, I had an elevator constructed, and she never walked over the stairs for a year. In May, 1874, she became pregnant again, and there was still a considerable mobility, I had a band constructed to support the abdominal tumor, which was applied after the uterus arose from the pelvis. She was confined in March, 1875, with no untoward symptoms, and there was but little more separation than during the pregnancy. I used the band as a precaution, and she got up with no impairment of her walking powers. In June, 1879, the motion of the bones at the pubes was very marked, and yet no complaint was made by the patient. Also I tested the case at the beginning of 1880, and found no perceptible change, in six years and six months.

I think that the large uterine tumor before the confinement in 1873 acted on the pelvic bones like a great elastic dilating cone, and so tended to spread the bones. In this case there were tenderness and lameness in the *left* sacroiliac synchondrosis, before her confinement. I think this indicated motion only in L. S. I. junction.

Mrs. M., twenty-four years old, very delicate and anæmic before marriage; American; confined February 22, 1875, at seven months; has had several miscarriages; had concealed uterine hæmorrhage in the first stage of labor; large flat clots were expelled with the child. Did well. On the twenty-first day after confinement tried to walk. I asked her to try in my presence; she crept or rather shambled across the floor, complaining bitterly of pain at the symphysis pubis. I tested her by putting my forefinger under the arch and making her stand first on one leg and then on the other, and also making her walk. A limited amount of mobility was found, less than one-eighth of an inch, but very marked, and also great tenderness of the junction.

I put on a firm five-inch twilled cotton band with perineal straps, and she was immediately able to walk with comfort; all complaint ceased after one month. I examined the patient on December 31, 1878, three years after, and found the symphysis still movable. I made the test as I have indicated, making the patient walk while I held the forefinger under the arch. Although the motion was evident, she felt not the slightest inconvenience. I have seen cases where after confinement the amount of motion was much greater, say one-half an inch, and yet there was no pain or impairment of walking power. This case seems to show that the pathological condition is of more importance than the amount of mobility.

December 11, 1878. Mrs. B., confined, fourth child, short labor, second stage one hour. Seen on the fourth day; said she felt well; said it hurt her to move her left leg; left leg was helpless; said "I was the very same way after first child; could not get around for four or five months; seemed as though it twisted that bone down in front when I tried to walk." I examined the S. P. and found marked relaxation, one-half inch motion, strong. Seen by Dr. Nichols and myself December 16th. He found the same relaxation marked; it was a curiosity to him, as it was the first case he had ever examined. Patient gave the following history of her first confinement, which happened two days before the Boston fire. Within a month found her bones hurt her when she moved in bed. Tried to get up at usual time, could not walk, seemed as if that bone right down in front was being twisted like a soft veal bone; she illustrated with her hands. Was obliged to stoop when she walked, with her hands on her knees; used a chair in getting about the room, and had to lie down a good part of the day. Went out of doors for the first time in March. Dr. Q., of Taunton, attended her; did not examine her, did not put on band, did not treat her in any way after confinement. Patient got well without special treatment, and did hard work. I attended her in second and third confinement; she did well in both. A short time after second, complained of pain in left hip, which disappeared quickly under simple treatment. No trouble whatever after the third. She has always worked very hard since I have known her.

I applied a five-inch bandage about the hips, with directions to keep it as tight as she could bear, and to remain in bed. Seen again December 26th; she was up and about; excused herself on the ground that her child was taken sick; limped a little when she walked; said that the bandage helped her very much, but that the stays going between the thighs hurt her. I examined and found the bandage high up off the hips

and about the waist. I suppose it helped her all the same, for in my subsequent visits I sometimes found it off and sometimes on, and yet she continued to improve. This time I tested her with forefinger beneath the pubic arch as she walked across the floor. S. P. tender; when she threw her weight on the left foot the right ramus descended, on right foot left ramus went down, the whole displacement at least half an inch. She felt pain only in the left sacro-iliac synchondrosis; no motion in right sacro-iliac synchondrosis; gait shuffling. I forbade her to go over the stairs, told her to keep the bandage tight, and explained to her her condition completely. In less than a month she was doing her work as usual and carrying heavy loads of coal upstairs. I examined her at the end of a year and found plenty of motion, yet she was doing hard work and called herself well. I examined her last time, December 20, 1880, and still found plenty of motion.

The fourth case was not seen by me, but occurred in the practice of a New York doctor. She was a lady of the highest intelligence, and an artist. I got the account from her lips. She was disabled before her confinement, so as to be obliged to keep her room practically; she walked with her hands braced on her knees, sliding her feet along the floor. At time of confinement her labor was almost powerless, and she was unable to make expulsive efforts, until her physician, who recognized her true condition, fastened a strong band about her hips; then the labor progressed and terminated naturally. After labor she was treated by rest in her bed and the firm hip band. During her next pregnancy, her doctor applied the supporting band that I have before alluded to. This was used after the uterus arose from the pelvis. In the subsequent labor she had no difficulty, and although there was some relaxation she was able to be up and on her feet.

When the first two of this series of cases was reported before the Boston Obstetrical Society, Dr. Lyman reported one case of extreme relaxation, which occurred in his practice. It was treated with a strong band and perineal straps. His band was applied with strong buckles, so that it could be drawn very tight. He reported a perfect cure, with complete immobility. Dr. W. L. Richardson also reported a case coming under his observation in his office practice, which was evidently chronic. The patient ordinarily walked well, but was subject to fits of pelvic lameness (if I may so call it). There was a motion of one-half inch, as I remember.

Dr. B. F. D. Adams, of Waltham, reported a case of four months' abortion, in which this relaxation was very marked. This was the only one he had seen in his practice.

Mrs. J. P., Irish-American, aged twenty-eight; quite anæmic, delicate, and soft-fleshed. Has had two children. Confined May 30, 1882; pains slow. I left her with os dilated to size of a quarter-dollar, as there had been no pains for an hour. Gave directions to send for me at once if pains came on, being distant five minutes off. Pains came on, and *I* was not sent for, but an old woman *was*. When I arrived the child was born, and she had a smart flow, sending her pulse up to 120, and making her look white. I delivered placenta, and flowing ceased. She made a slow, but good recovery. The motion of the pubic bones was half an inch. I advised her to keep on a tight bandage for a month after. She complained of no soreness at the symphysis while in bed. I concluded that she was one of those cases that are not lamed or crippled by the great mobility of the pelvic bones, owing to the absence of pathological condition. But, on August 3d, while on a visit to her sick child, she complained to me of her inability to walk without pain at the pubes, and also, that there was a "snap or click with each step." I tested the condition by finger under the arch, while she stood alternately on one or the other leg. I found a good half-inch motion; also a crepitus, like the slipping of a dislocated bone into place. I ordered cold bathing, massage, and a good, strong, five-inch band, with perineal straps, fastened very firmly. This gave her comfort at once, and, after a year, she ceased to complain, and did her work over stairs without trouble.

She is able to take care of a family of four, and yet there is still great mobility.

I have never but once found this relaxation in non-puerperal or sterile women, or in virgins, and yet the number tested is so small as not to prove a law.

I recently tested the pubic joint in a young woman, just past thirty, and found a motion of one-eighth of an inch. She was unmarried, and, without doubt, had never been pregnant.

A NEW STUDY OF THE PELVIS.

A. I took an articulated female pelvis of the skeleton, fastened the junctions firmly with elastic rubber bands; marked two fine points on the *sub-pubic* arch, on each side of junction, $\frac{6}{20}$ of an inch apart; the *distance* between two fine points, one on each tuberi schii, was $\frac{9}{20}$ of an inch apart. Then separating the sub-pubic junction till the two points were $\frac{7}{20}$ of an inch apart (a separation of pubic junction of $\frac{1}{20}$ of an inch), and, fixing all fast, the distance between the two points on the ischia measured $\frac{8}{20}$ of an inch, $\frac{7}{20}$, or nearly $\frac{1}{3}$ of an inch. The above motion is represented by the separation of two radii, whose centre is at the centre of the symphysis, and terminations at the two points on the ischia. In the pelvis of my experiment, the rocking motion of the pubic junction was on the vertical centre, so that as I *opened* the sub-pubic $\frac{1}{20}$ of an inch, the supra-pubic *closed* $\frac{1}{20}$ of an inch.

Thus the result of a separation at the sub-pubic junction of $\frac{1}{20}$ of an inch *may* increase the distance between the ischiatic tuberosities $\frac{1}{3}$ of an inch minus, and $\frac{1}{10}$ of an inch separation, nearly $\frac{2}{3}$ of an inch — a very significant and important factor in the passage of a head through the outlet.

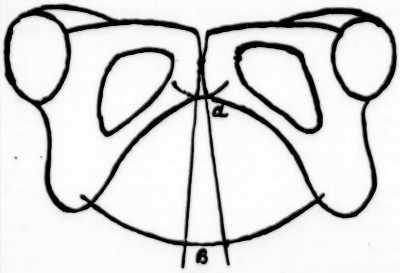


FIG. 3.

B. Second experiment. Having fixed the pelvis firmly in its normal condition, I measured the distance between two fine points, the one on the anterior margin of the coccyx, and the other on the inner margin of the pubic arch, at $\frac{10}{10}$ of an inch; then *flexing* the iliac (that is, motion upward) on a pivot through the *centre* of its junction with the sacrum, so that there was a motion forward at the sub-sacro-iliac junction of $\frac{2}{10}$ of an inch, and again measuring between coccyx and pubes, the distance was $\frac{17}{10}$ of an inch; or, in other words, an extreme *pivotal* motion of $\frac{2}{10}$ of an inch at the lower *margin* of the sacro-iliac junction meant an increase or decrease of the antero-posterior diameter of the outlet of $\frac{1}{8}$ of an inch minus, as the iliacs are carried upward or downward (flexed or extended) on the spinal column as a fixed point. In a word, by these experiments it is shown that, with a very slight relaxation of the pelvic ligaments and separation of the pelvic junctions, two new factors enter into the problem of the passsge of the head through the outlet: *First*, a slight separation ($\frac{1}{10}$ of an inch) at the sub-pubic junction *may* increase the lateral diameter between ischia $\frac{1}{8}$ of an inch. *Second*, a slight pivotal motion of iliacs on the sacrum, measured as $\frac{2}{10}$ of an inch at the sub-sacro-iliac junction, *may* increase the antero-posterior diameter of outlet $\frac{1}{8}$ of an inch.

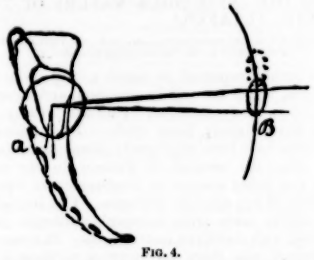


Fig. 4.

Practically, when the woman "braces her feet," she *opens* the antero-posterior diameter, and the child's head, under the force of uterine pains, *spreads* the ischia with all the advantage of leverage. No authors but Playfair and Duncan have recognized this fact in the slightest degree, and they only half; namely, the flexion and extension of the iliacs on the spinal column. No one that I ever heard or read of has tested the possible effect of a separation of the symphysis pubis on the distance between the ischiatic tuberosities.

C. Experiment third. With all the pelvic junctions fixed in their normal position, I measured the distance between two fine points, one on the anterior margin of the promontory, and one on posterior margin of symphysis, as $\frac{9}{10}$ of an inch; then *extending* the iliacs (that is, moving them downward), with a pivotal motion on the sacrum, through the *lower third* of the sacro-iliac junction, the amount of motion, as measured at the lower margin of this junction, being $\frac{2}{10}$ of an inch, I measured the distance between the promontory and pubes as $\frac{9}{10}$ of an inch, an *increase* of the antero-posterior diameter of $\frac{2}{10}$, or $\frac{1}{4}$ of an inch. When the pivot of motion was at the *centre* of the sacro-iliac junction, and not at the *lower third*, this increase of diameter was $\frac{3}{10}$ of an inch, so that a new factor enters into the problem of the passage of the head through the brim; and all those writers are wrong who say that a *great degree* of separation and relaxation is needed to enlarge the diameter of brim even a *line*. (Dewees says over $\frac{1}{4}$ an inch is required "to increase the diameter a line.")

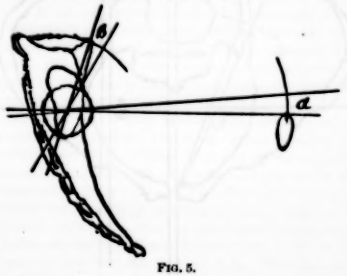


Fig. 5.

The new factor is this: that practically the *straightening* of the body and dropping of the pelvis on the spine tends to increase the antero-posterior diameter of the brim, and a very *small* pivotal motion of iliacs on the sacrum (which a small degree of relaxation will allow), *may* increase this diameter very essentially. A moment's consideration will show that the pressure of the head at the brim tends to carry the iliacs downward and the promontory away from the pubes. Again, according to the authors, it will need a separation of $3\frac{1}{2}$ of a line at the pubes to increase either diameter one line; being misled by the ratio of a circumference to a diameter.

D. But in experiment *fourth* I separated the pubic and two sacro-iliac junctions $\frac{2}{10}$ of an inch (it is reasonable to infer that this is possible in the lesser degrees of relaxation); the lateral diameter was increased $\frac{3}{10}$ of an inch plus, nearly $\frac{3}{10}$ of an inch. This can be shown to be correct geometrically, for this experiment was not the adding to a circle three segments, each $\frac{1}{10}$ of an inch, but, for instance, in the case of the sacro-iliac junction and the symphysis pubis, it was the separation of *two parallel lines* $\frac{1}{10}$ of an inch (see Fig. 6); and in the case of the *right* sacro-iliac junction it was the motion of a *radius* $\frac{1}{10}$ of an inch at its circumference; that is, at the sacro-iliac, and zero at its centre, that is, at the symphysis pubis; half way between centre and circumference, on the line of the *lateral diameter* of the pelvis, this motion is obviously $\frac{1}{10}$ of an inch minus. (See Fig. 6). So that in relaxation of the pelvic ligaments these four (4) factors come in, to facilitate the passage of the head through the brim: — *First*, the extension of the iliacs on the spine, which in effect carries the promontory away from the pubes, increasing the antero-posterior diameter; *second*, separation of the pubes; *third*, separation of the right sacro-iliac junction; *fourth*, separation of the left sacro-iliac junction. It is possible that the first may be within certain limits, $\frac{1}{4}$ inch for every $\frac{1}{10}$ inch pivotal motion at the sub-sacro-iliac junction; and that the sum of the last three *may* be $\frac{3}{10}$ of an inch *minus* for every $\frac{1}{10}$ inch of separation.

My observations through a series of 275 cases show a varying degree of mobility and separation in 75 *cases* out of every 100, and 70 *individuals* out of

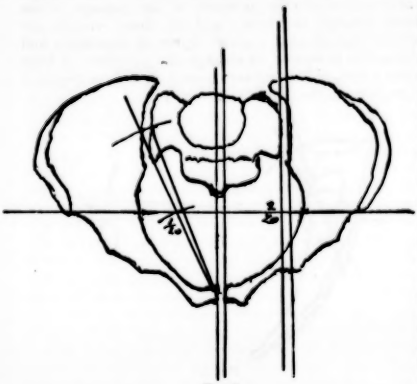


FIG. 6.

every 100. This new (to me) study demonstrates that a small degree of relaxation may increase very essentially both the lateral and antero-posterior diameters of the brim, and is a still more potent factor in increasing the antero-posterior diameter of the outlet and its lateral diameter between the tuberosities of the ischia. To the question, "Does the relaxation of the pelvic ligaments facilitate delivery?" the answer is — YES!

FINAL CONCLUSIONS.

My observations continued through a series of 300 cases in child-bed, as well as tests in quite a number of cases of virgins and sterile women, lead me to the following conclusions:

(1) That the presence of relaxation depends very much upon the strength of the bony and ligamentous structure of the skeleton; that is, it is more apt to occur in the woman of poor physique, the delicate, the soft, the "chicken-jointed." Some women can turn their fingers backwards and their ankles over sideways.

(2) That age does not determine its presence, at least the degree of it, as the following cases show.

44 years, 1 case, 1-4 inch motion.
42 " 2 cases, firm; 1, marked motion.
40 " 2, firm; 1, 1-2 inch; 1, marked motion; 1, 1-16.
39 " 1, slight m.; 1, 1-8 motion.
22 " 5, firm; 2, slight; 2, marked; 1, 1-4 inch motion; 1, 1-16.
21 " 2, slight motion; 1, 1-8 motion.
20 " 1, marked motion.
19 " 1, slight; 1, 1-8 motion.
18 " 1, firm.
15 " 1, 1-4 inch motion.

The age of observed cases ranges from fifteen to forty-four.

(3) It is not constant, but a degree of it is natural at time of labor, and may exist during pregnancy and even in the early months.

(4) There may be great motion and no lameness or impairment of walking power. Various authors testify to the contrary.

(5) There may be a small degree of motion and great lameness. Baudelocque, page 31, says, "We should be in the wrong if we supposed that such a state of weakness and pain always denotes great disorders in the junction. I am convinced that this may be a consequence of a very small separation or of the slightest movements between the ossa innominata."

(6) Lameness depends upon pathological condition of the junctions, pubic and sacro-iliac.

(7) Pain at the sacro-iliac junction of one side proves that on that side is the pivotal motion of the iliac on the sacrum. It may occur in non-puerperal females, in sterile and virgins.

(8) Patients may recover from a most serious condition of lameness without treatment, as in my third case.

(9) The most careful treatment, with all the aids that wealth can bring, may not restore firmness to the pelvis, as in my first case.

(10) Many a case of lingering disability after confinement, with what the doctor considers vague complaints, may have been due to this cause, and it is well, when you cannot find out "what is the matter," to test the condition of the pelvic ligaments.

(11) A small degree of relaxation or separation may facilitate delivery, and may be the factor that saves the use of forceps.

(12) As I am not bigoted, a further examination of the next series of 300 cases may change many of the above conclusions.

ABSTRACT OF A PRELIMINARY REPORT OF EXPERIMENTAL RESEARCHES CONCERNING THE INFECTIOUS NATURE OF TRAUMATIC TETANUS.[1]

BY EDWARD O. SHAKESPEARE, A.M., M.D., OF PHILADELPHIA,
Pathologist to the Philadelphia Hospital, etc.

THE author reported in detail a long series of experiments, which are still in progress, and announced the results already obtained. Upwards of fifty inoculations have already been made. Two methods of inoculation have been employed: intra-cranial inoculations, after the method of Pasteur in the case of rabies, and subcutaneous or inter-muscular injections by means of hypodermic syringes. The inoculations were always made with thorough antiseptic precautions, and with sterilized instruments. In none of the experiments was there any sign of accidental infection, such as suppuration, etc. The material used for inoculation was, in general, obtained from the medulla or the spinal cord, and cultures in neutral or slightly alkaline flesh-glycerine-agar, as recommended by Roux for the culture of tubercle bacilli. The tetanus material was taken, under aseptic precautions, from a horse and a mule dead of traumatic tetanus in the veterinary department of the University of Pennsylvania, the brain, medulla, and cord being removed one and three hours, respectively, *post-mortem*, and immediately kept on ice until used. The inoculation material was, in general, prepared in the following manner: A small piece of the medulla or cord was thoroughly rubbed up in sterilized, distilled water; after the solid particles were allowed, for a few minutes, to subside to the bottom of the vessel, the opalescent emulsion thus obtained was drawn off by means of sterilized pepettes, and placed in small, sterilized vials until used, never having been thus kept longer than three hours before inoculation. Eight control experiments were made.

The author concludes his paper as follows:

RÉSUMÉ OF RESULTS.

First Series. Eight rabbits were inoculated, sub-dura

[1] Read in the Section on Pathology of the Ninth International Congress, September 6, 1887.

cerebri, of a horse dead of tetanus, between August 1st and 18th, inclusive. The rabbit inoculated directly from this horse showed the first symptoms of tetanus within fifteen hours, and died of well-marked tetanus within forty-eight hours after inoculation. Both the period of incubation and that of death became markedly shortened in continuing the inoculations from rabbit to rabbit.

Second Series. Four rabbits were inoculated, sub-dura cerebri, from the same medulla of horse. The rabbit inoculated directly from the horse showed the first symptoms of tetanus within twenty hours, and died within forty-eight hours after inoculation. Continuing the inoculation from rabbit to rabbit, the period of incubation and of death became markedly shortened.

Third Series. Four rabbits were inoculated, sub-dura cerebri, from the same medulla of horse, after it had been kept on ice a day longer. The rabbit inoculated directly from the horse showed the first symptoms of tetanus within twenty-four hours, and died within forty-eight hours after the inoculation. Continuing the inoculations from rabbit to rabbit, the period of incubation and of death became markedly shortened.

Fourth Series. Three rabbits were inoculated, sub-dura cerebri, from the medulla of a mule dead of tetanus, with the same results as in the previous series.

Fifth Series. Seven rabbits were inoculated under the skin and into the muscular tissue of the back, from the medulla of the horse above mentioned. One died within eighteen hours, and another died within ten days, but neither of them showed any sign of tetanus. A rabbit inoculated sub-dura cerebri from the medulla of the latter, on August 15th, is still living and well on September 4th.

Sixth Series. A rabbit, which had been inoculated under the skin directly from the horse on August 1st, was, eight days afterward, inoculated sub-dura cerebri from the medulla of the last rabbit of the third series. It became sick and died promptly of tetanus, within the shortened period. A rabbit inoculated sub-dura cerebri from its medulla showed signs of tetanus within twenty hours, but did not die until five days after inoculation.

Seventh Series. Six rabbits were inoculated, sub-dura cerebri, from emulsions of spinal cords of rabbits which had died of tetanus within the short period above mentioned. These cords had been treated in a manner similar to that employed by Pasteur for the attenuation of the virus of hydrophobia, during periods varying from three to fifteen days. Five of them died of marked tetanus, the symptoms appearing, and death occurring, within periods longer than those of the corresponding rabbits from which the medulla had been taken, and usually proportional to the length of time the cord had been drying. One of the six showed doubtful symptoms, but, nevertheless, very promptly died.

Eighth Series. A rabbit was inoculated, sub-dura cerebri, from the medulla of a rabbit which had died after inoculation from the cord which had been fifteen days drying. It showed the first signs of tetanus in forty hours, and died of tetanus seven days after inoculation.

A rabbit was inoculated sub-dura cerebri from the cord which had been drying fourteen days, and it died of tetanus in twenty hours. A rabbit and a cow were inoculated sub-dura cerebri from its medulla. The former quickly died of marked tetanus. The latter died without marked symptoms within two days, and from the autopsy it seemed probable that injury to the brain had been the cause of death (there had been great difficulty in performing the operation of inoculation). A young rabbit, inoculated sub-dura cerebri from this cow's medulla, died within sixteen hours, but showed no signs of tetanus, and another rabbit inoculated sub-dura cerebri from the medulla of this rabbit August 27th, is still living and quite well September 4th, never having shown any signs of illness.

Ninth Series. Three rabbits were inoculated sub-dura ceribri September 1st, from spinal cords of tetanus which had been drying respectively twenty-three, twenty-seven and twenty-eight days (these cords were the same as those which had been drying longest, mentioned in the preceding seventh series). The rabbits inoculated from the twenty-third and twenty-eight-day cords showed no signs of illness up to the time of the last observation, September 4th. The one inoculated with the twenty-seven-day cord for the first time showed stiff jaws and difficulty in eating on the afternoon of September 4th.

Tenth Series. Three rabbits which had been inoculated under the skin on the 19th of August, and had remained perfectly well, were inoculated sub-dura cerebri, September 1st, from the same cords mentioned in the ninth series. The rabbit inoculated with the twenty-third-day cord was found dead the next day, but it showed no signs of tetanus either externally or at the autopsy. That of the twenty-eight-day cord showed stiff jaws and would not eat for the first time on the afternoon of September 4th. That of the twenty-seventh-day cord showed no signs of illness up to the last observation, September 4th.

Eleventh Series. Three rabbits were inoculated sub-dura cerebri, August 31st, from cultures started from the horse's brain August 1st and renewed once, namely, on August 20th. One of them has remained quite well up to the last observation, September 4th. One remained quite well until September 2d, afternoon, when it showed intermittent trismus and indisposition to eat. This condition continued up to date of last observation, September 4th. One showed for the first time slight signs of tetanus September 3d, and had them also up to date of last observation, September 4th.

Twelfth Series. A trial attempt was kindly made for me by Dr. L. Wolff, Demonstrator of Medical Chemistry in the Jefferson Medical College to isolate a ptomaine from the brain medulla and cord of the mule and cow above mentioned. The Stass-Otto method was more or less closely followed.

The product obtained from the mule was injected under the skin of the back of two rabbits. They became very ill within twenty minutes, being slightly paralyzed and exceedingly restless, frequently getting down flat on the belly and up again and jerking the hind legs up, but they showed no marked convulsive movement or trismus. They entirely recovered within six hours.

The product obtained from the cow produced but little and only very transient and indefinite effects.[2]

[2] Several autopsies of the tetanus animals were made, and they invariably showed intense congestion of the lungs, trachea and kidneys. Sometimes there was congestion, oftentimes none at all, of the central cerebro-spinal nervous system. The mucous membrane of the stomach was apparently normal.

Conclusions drawn from the author's personal researches.

(1) Traumatic tetanus of the horse and mule is, at least sometimes, if not always, an infectious disease, transmitable to other animals, and therefore possibly also to man; and during the progress of this disease a virus is elaborated and multiplied which is capable of producing the same infectious disease in some other animals when placed beneath the dura mater of the cerebrum.

(2) This virus is contained in the medulla and spinal marrow of the animal suffering the disease. It is, like the virus of hydrophobia, capable of being strengthened in virulency by inoculation sub-dura cerebri from rabbit to rabbit, and, like the virus of hydrophobia is capable of attenuation by exposure for a sufficient time to the action of dry air at a temperature of summer heat, and still again like the rabic virus, its effects are far more intense when the virus is inserted beneath the dura-mater cerebri than when injected beneath the skin or between the muscles of the back.

The author reserves his conclusions concerning a prophylactic effect of inoculations of the attenuated virus, until the completion of experiments which are at present in progress.

Conclusions drawn from the author's experiments when correlated with those of Nicolayer, Carle and Ratone, Rosenbach, Ferrari, Flügge, *et al.*

Traumatic tetanus of the lower animals and of man, at least sometimes, possibly always, is a specific infectious disease due to the action of a specific infectious virus which exists in the tissues at the seat of infection, in the blood and in the central cerebro-spinal nervous system.

In view of the experimental evidence which we possess at present and of many unassailable observations of many surgeons and veterinarians, there seems to be ample warrant for the admission that not infrequently tetanus in man is acquired directly and indirectly from some of the domestic animals, notably the horse, which surround him.

THREE CASES OF DYSPEPSIA.[1]

BY ELBRIDGE G. CUTLER, M.D.

Of the cases I am about to report, two illustrate the favorable result sometimes obtained by attending carefully to the diet. The other shows the advantage which may be gained at times by simply washing out the stomach.

CASE I. Miss P., aged twenty-two, had suffered from dyspepsia somewhat for five years, or ever since she had been a school-girl, and of late it had gradually become much worse. Her menstruation had been regular up to the previous spring, (she was first seen Dec. 23, 1882). It then became irregular, and since August of that year she had not menstruated at all. For several years her bowels had been constipated. All kinds of food after a time hurt her. She had got to taking less and less and changing from one thing to another, till she hardly knew what she could do in the way of digestion. She had been under treatment most of this time. She suffered from curious sensations in the head, due, I thought, to anæmia, and complained of having a veil over her eyes. She was pale, anæmic, emaciated, her sleep was disturbed by restlessness and dreams, the bowels were constipated. She had to keep her bed most of the time. The pulse was 80, small, soft, and regular. The cardiac area of flatness was normal, physical signs in the chest negative, except there was a venous hum in the neck. The epigastrium was not sensitive to the touch. The stomach as determined by percussion was rather small. The weight was about ninety pounds. The amount of urine in twenty-four hours was about one and a half pints. It contained much mucous and flat epithelium and a trace of albumen.

I began the treatment with raw oysters, milk, and milk and raw eggs, and a little Carlsbad salts in hot water in the morning; gradually increasing the quantities of food for four days, when she began to sleep better and I added dialysed iron. Two days later, I gave in addition malt and buttermilk. Two days later, half a pint of water was added. A few days later I gave the syrupus hypophosphitum compositus. On January 4th, the bowels had been doing very nicely and I added rock-salt to her morning bath. She was then passing one quart of urine in twenty-four hours. On the 17th the pulse was stronger, there was more color in the face, she was getting fatter. She was taking food and drink in sufficient quantity at regular intervals which was fairly well digested. The bowels were attended to daily. I then added passive movements to the treatment. The 25th she was sleeping well all night, and had had no trouble with food for several days. The dialysed iron was changed to ferrum reductum, and emulsionized cod liver oil was added to the treatment once a day. February 17th, had done splendidly in every way. Menstruation had come on since the last visit, and food had disagreed a little during that time. On March 28th, I made out a regular diet list and left her in the hands of her nurse, a most faithful, conscientious person. On July 26th, I saw her and found that she weighed one hundred and forty pounds, (she was five feet seven inches tall), she was looking remarkably well, and said she never felt better in her life. Since then, with the exception of occasional slight temporary fits of dyspepsia, she has remained perfectly well.

CASE II. Miss H., aged eighteen, as a child was always well and strong. Menstruation began regularly at the age, I think, of fourteen, and continued till eighteen months or two years ago, when, having had dyspepsia for two years and being run down, the menses ceased. Her food had hurt her constantly all this time and one article after another was omitted from her dietary till at last it became very meagre. She was sent to the mountains and the seashore without avail. The drug treatment consisted of pepsin, soda mint, hydrochloric acid, and some other things, and finally peptonized milk was added. In spite of what was being done she steadily became worse during the twelve months before I saw her, which was in November, 1885, so that at that time though five feet and eight or ten inches tall, she was very much emaciated, and weighed but 86½ pounds, when in ordinary street costume. The extremities were cold the whole time, the face was pinched, the hands suggestive of bird's claws. She was very restless, wanting to be constantly on the move, she slept poorly, had bad dreams, suffered from

[1] Read at the annual meeting of the Suffolk District Medical Society, April 30, 1887.

headache, and on starting to do anything she would stand about in a hesitating, helpless way which was at times almost painful to witness. She was rather listless, and although answering questions about her health readily, she evidently regarded the inquiries as a bore. Little positive could be made out in reference to the digestion of different articles of food by questioning, except that it was generally bad. Physical examination of the chest revealed nothing abnormal.

Forty-four ounces of urine were passed in twenty-four hours, and except an increase in the amount of indican and mucus, and a diminution of about one-quarter from the average amount of urea passed in health, it was not remarkable. The abdomen on physical examination was not abnormal. The stomach was diminished in size. There was slight epigastric discomfort on pressure. The skin was rough and scaly, especially on the face and limbs.

I began by prescribing a fixed diet for the next three days and before each meal a dose of gentian, and every morning a dose of Carlsbad salts in hot water to push on the contents of the stomach and prepare the way for the food of the day. I gave the Rabuteau's dragees and a preparation of maltine as a drink with breakfast. I gradually added to the dietary, seeing her every three days for a time, and by degrees lengthened the interval of my visits. On January 4, 1886, the weight was 88 pounds. On January 7th, I changed to Sedleitz Chanteaud,[2] and soon after began Koumiss. On February 20th, she was taking Sedleitz Chanteaud in the early morning, quassia before meals, Koumiss with dinner and supper, emulsionized cod-liver oil after meals, one Rabuteau dragee in the morning, peptonized milk between breakfast and dinner and between dinner and supper, and malt with breakfast. She weighed that day 97 pounds. By March 20th, she had reached 100 pounds. By April 17th, 107 pounds.

May 1st, she weighed 106 pounds; May 15th, she weighed 108 pounds; June 12th, she weighed 112½ pounds.

July 26th, she took ordinary meals with Koumiss and peptonized milk added, other things being omitted. September 10th, she weighed 126½ pounds. The menstruation had returned. October 23d, she weighed 136 pounds, and as that was the limit I had set, I omitted all treatment except that I insisted on her maintaining a certain proportion of the different kinds of food. April 17, 1887, I saw her, and found that she had been well all winter, had gone out to balls, parties, theatres, etc., and then weighed, in her spring costume, 130 pounds, which was ten pounds more than she desired.

These two cases are good examples of a type we frequently see, occurring chiefly in young women of the better classes who have recently passed from the school-girl romping period of good health, to the young lady period of private lessons, insufficient exercise, improper diet, constipated bowels, painting and general culture, the pernicious club (sewing or social), and afternoon teas. They first get deranged by insufficient outdoor exercise, and by an improper proportion of albuminates, fats and sugar or starchy foods in their diet, and by their general unhygienic life. The next step, which is a short one, is to indiscriminate or illogical dosing, and from that time the mischief is accomplished. The cases also show the absolute necessity of accurately knowing from personal observation the exact condition of the patient's digestion. By this means only, by patient and persistent observation, can one know whether the proper proportions of the different articles are consumed and be ready to supplement any deficiency. A drug treatment without such knowledge I should strongly oppose. A second very important point, it seems to me, is the giving of a certain amount of food, beginning with a little less than is the proper average, and gradually increasing the amount, and at the same time insisting on the patient's taking it in spite of pain or other discomfort at first. I attach considerable importance also to the daily giving of a proper dose of Carlsbad salts or Sedleitz in the early morning.

Case III. Dan. McNeil, aged thirty-five, married, a machinist by trade, born and living in Boston, came to the Massachusetts General Hospital, November 10, complaining of gastric trouble. There was constant pain in the epigastrium a short time after eating, eructations of gas, and often, at some time in the day, an attack of vomiting, most frequently occurring in the morning. These symptoms had existed for five months, but had gradually become worse, and were associated with constipation. He was frequently detained from work. A careful physical examination of the chest showed no abnormality. The vomitus was very frothy. The abdomen was fairly prominent; the stomach, on percussion, certainly was not enlarged. There was a little tenderness in the epigastrium, at the lower end of the xyphoid cartilage. As it was believed that fermentation was occurring in the stomach, he was advised to allow the organ to be washed out. On full explanation, he readily assented, and, accordingly, a tube, such as is shown, was passed in, and one quart of warm water was carefully poured in, to which a teaspoonful of boracic acid had been added: part of this fluid was withdrawn by syphonage once or twice, and then nearly one pint was left in the stomach, to act as an anti-ferment. One week later, the patient reported again as having been very much improved. The gas was no longer passed, pain was much less; there had been no vomiting. He had gone back to his work from the hospital that day, and had pursued it steadily since. So much pleased was he with the effects of the treatment, that he had brought back with him a friend similarly affected for like relief. The procedure was repeated, and the patient went to work. On the 24th, he reported as being practically well. The washing out was performed again, and he was discharged well.

The mechanical treatment of gastric disorders was made use of by the ancient Greeks. In the time of the Roman emperors, a number of instruments were in use to facilitate vomiting, used chiefly in cases of poisoning. They consisted essentially of a leather cap to go on the finger, or a feather with which to irritate the pharynx.[3] At the end of the seventeenth century, the direct treatment of the gastric mucous membrane was in vogue in the use of the stomach-brush. The handle of the instrument, twenty-six inches long, consisted of a twisted brass wire, wound with silk thread. On the lower end of it was a small brush, three inches long, two inches broad, made of goat's beard or horse-hair.[4] In the eighteenth century, the elastic catheter

[2] A quite pure French preparation in form conveniently handled.

[3] Leube. Magensonde, Erlanger, 1879.

[4] Leube. Loc. cit.

was recommended for the purpose of exhibiting food and drugs. Hunter used hollow bougies or flexible catheters for this purpose. Soon followed the first attempts at emptying the stomach of its contents by means of a pump. The English surgeon, Bush, was probably the first who pumped out a stomach. In cases of opium-poisoning, he fastened an elastic, hollow tube to an ordinary syringe, injected water, and then pumped out the diluted contents of the stomach.

In the second decade of the present century, different sorts of stomach-pumps were devised by several different persons, and, as sounds, either gum-tubes ending in a perforated ivory knob, or flexible elastic tubes with rounded ends and two openings at the sides, were used. These instruments and methods were never in general use, and soon were forgotten. Our own countryman, Dr. Sommerville, of Virginia, proposed, in 1823, to syphon out the stomach, and took a flexible tube, four feet long, to wash it out, one end being arranged to pass into the stomach, and the other end being armed with a funnel.[5]

To Kussmaul, the German, however, belongs the honor of first having called general attention to the benefits to be derived from the systematic use of the stomach-pump, in his work on the treatment of dilatation of the stomach, in 1867; and through him the mechanical method was introduced into general practice, and has become, since then, a more or less general procedure. Since Kussmaul's work, the progress has been made of using the syphon, instead of the pump, which must be regarded as a great advance, and due largely to Oser,[6] of Vienna.

The mechanical treatment of the stomach may be divided into three procedures: the catheterization of the œsophagus, the emptying of the contents of the stomach, and the local treatment of the gastric mucous membrane.

I. Before proceeding to *catheterize* the œsophagus, a careful examination of the cavities of the mouth and throat are to be made, to see, first, if the instrument can be passed at all. An abnormally narrow throat, very prominent tonsils, cicatrices, tumors, adhesions, may present an absolute bar to the passage of any instrument.

Quite as important is an accurate examination of the circulatory and respiratory organs, because severe, non-compensated, cardiac lesions, aneurisms of the aorta, advanced phthisis, present contraindications to catheterization, or, at least, demand extreme care, on account of the liability to spasm. Acute and chronic laryngeal catarrhs also interfere, for, as soon as one gets near the larynx with the catheter, an attack of laryngeal spasm may occur, which makes the patient, as well as the physician, think he is going to suffocate. The instrument is either the one of soft rubber, which I pass round, or a stiffer one, with a bell-mouth. The length of the tube is about thirty inches.

In passing it in, the patient sits with the head thrown slightly back and the mouth wide open, the index finger of the left hand is placed on the tongue, and the right hand passes the tube, wet with water, or better, milk,[7] to the back of the throat, and, the patient being told to swallow, the point of the catheter is passed down, so that the constrictors of the pharynx grasp the end, and the instrument is then rapidly pushed down during repeated acts of swallowing. Long breaths minimize the sense of choking often experienced. The tube must be passed, at least, twenty-eight inches, as eighteen inches represents the distance from the teeth to the cardiac end of the stomach (sixty or seventy centimeters is the rule). According to Penzold's investigations, a sound three-eighths of the length of the body suffices to reach the deepest part of the stomach.

The advantages of the soft tube are the almost impossibilities of causing injury to the œsophagus, as it bends and turns round or returns and does not perforate the tissues in case of meeting with an obstruction. It cannot injure the gastric mucous membrane when with ordinary care. It may be used to rouse the gastric muscular contractions without injury, which are of great assistance in syphonage.

The disadvantages are that it is sometimes grasped and compressed by the muscular tissue so that it cannot be passed, or its lumen becomes closed when it has reached the stomach, so that it is rendered useless for the purposes of syphonage. In this case the stiffer tube is to be used.

II. The emptying of the gastric contents.

(*a*) Solids and fluids. For this purpose the pump and the syphon are used. The pump is the ordinary one used for aspiration, and may be attached to the end of the flexible catheter. The chief disadvantage of its use is the danger of aspirating some of the gastric mucous membrane and tearing it off. It is, however, to be used when all the contents are to be removed unchanged for a chemical or microscopic examination, and in most cases of poisoning.

The simpler and easier method is the syphon, which must be at least two meters (six feet) long. The catheter is to be filled with water and passed in and then a tube of the same length and diameter may be attached to the outer end by means of a glass tube, and the lower end sunk below the epigastrium or to the ground, when the contents, such as will, may run out. Sometimes it will be necessary to let a little fluid run in, half a pint or less, in order to start the flow, or if a solid particle gets lodged, it must be dislodged by more fluid or the patient be made to cough, or the tube be removed, washed out and reinserted. A pint or a pint and a half may be needed, if much solid matter is present.

(*b*) If gas is present the tube must be passed in but 40 to 50 centimeters instead of 60 or 70, and the abdominal muscles brought into play either voluntarily or by kneading.

III. Irrigation of the stomach.

In most cases a simple washing out with fresh, cool water will suffice; in anæmic persons the water must be lukewarm.

The quantity is one pint to a quart, and it is to be allowed to run in and out until it returns clear. Or a solution of bicarbonate of soda, one drachm to the quart may be used if there be much mucus, or in cases of constipation sulphate of soda a drachm and a half to the quart of water. In some cases of chronic catarrh, alkaline waters, Carlsbad, Vichy, and so forth may be used with advantage, or the above mentioned solution of bicarbonate of soda, one to two per cent. or the same of sprudel salts. If the contents are very acid or fœtid, salicylate of soda, thirty to forty grains to the quart may be used to be followed by pure water. Resorcin one-half to three per cent. is rec-

[5] Leube. Loc. cit.
[6] Wiener Klinik., 1875.
[7] When vaseline or oil is used, an unpleasant taste is left in the mouth.

ommended (the latter per cent. seems to me to be too strong). Carbolic acid is dangerous. Permanganate of potash in weak, violet-colored solution and boracic acid one to two per cent. are also good in cases of fermentation. In cases of severe pain, suspensions of bismuth subnitrate, an ounce to the pint, and allowed to remain for a time in the stomach so as to deposit a layer of bismuth or chloroform water (aquæ chloroformi of the "United States Pharmacopœa") diluted one-half may be used.[8]

The best time to wash out is before the chief meal in the day, or three or four hours after breakfast. Some persons whose sleep is apt to be disturbed by pain caused by food are better treated at night. The kind of disease and the result obtained determine the number of washings to be made. Sometimes severe inflammatory symptoms have appeared afterward, or great tenderness of the stomach or vomiting. These complications I have never seen. The treatment should end when the digestion is essentially benefited and the digestive power greater, and when no mucus or undigested food is brought out (naturally the washing must be four or five hours after taking food). Some cases require but a few washings, while others demand it daily the rest of their lives.

Unpleasant symptoms seldom occur. At first the procedure may be difficult, later it is not so. Spasm of the larynx has not been very rare, or slight faintness perhaps in a few cases. The gastric mucous membrane has been torn off sometimes, usually not accompanied by much pain or hæmorrhage. Considerable hæmorrhage may occur in gastric ulcer or phthisis, or heart disease, and prove a bar to the use of the sound.

Indications. (*a*) For diagnostic purposes. To determine the size of the stomach, differentiate the transverse colon, to get the contents for chemical or microscopic examination. (*b*) For therapeutic purposes. To remove injurious substances, either those taken in, or those which have undergone changes, and to treat the diseased mucous membrane, and lastly to increase the diminished contractility of the stomach. It is, therefore, used in poisoning, especially by alkaloids, in acute and chronic catarrh, dilatation, ulcer, cardialgia, cancer with consecutive dilatation, and catarrh.

Contraindications. The existence of those diseases in which vomiting, if it be caused by the procedure, may prove harmful, proves a bar; as in hæmoptysis, in persons with atheromatous arteries, in those having a tendency to apoplexy, in aneurisms of the aorta and large vessels, in non compensatory heart lesions, in cases of weak or fatty heart, in advancing gastric ulcer or recent hæmatemesis.

By means of this method of treatment we may do a vast amount of good at times. Fortunately, it is the very persons who need most to be well in the quickest possible time, namely hospital and dispensary cases, who make the least objections to its use. In my experience, at least, the better class of patients, to whom the element of time in recovery is no object, view the procedure with distrust, apprehension and disgust. They prefer the longer and ordinary methods of treatment, and are constantly making future appointments for the operation and not fulfilling their part of the agreement when the appointed time arrives.

[8] Dujardin-Beaumetz.

Reports of Societies.

PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

HERBERT L. BURRELL, M.D., SECRETARY.

April 30, 1887, the President, Dr. G. B. Shattuck, in the chair.

Dr. E. G. Cutler read a paper on

THREE CASES OF DYSPEPSIA.[1]

Dr. F. Minot thought that dyspepsia was a less common disease now than formerly, owing to the improved hygienic condition of life, the better food and better cooking of the present time. The cases reported by Dr. Cutler might be divided into two kinds. The first two were examples of failure of nutrition consequent upon a chlorotic condition, as shown by the improvement following the administration of iron, and the careful regulation of the diet. The last case seemed to him to be one of chronic gastric catarrh, with abundant secretion of mucus, which by its alkaline reaction neutralizes the acidity of the gastric juice, besides enveloping the food and protecting it from the latter. It is this condition especially which leads to dilatation of the stomach, and fermentation of its contents. Dr. Minot had had no personal experience in irrigation of the stomach in these cases, but he believed it was by far the most effectual mode of treatment; the stomach is speedily relieved of the mass of fermenting material, together with the mucus, and the lining membrane can be subjected to appropriate local treatment.

Dr. F. C. Shattuck expressed his interest in the two first cases of the reader, cases which show well what can be done by intelligent and painstaking treatment. Both patients had been long sufferers, had been under the care of physicians, but had not been placed upon, or else had not been willing to undergo, treatment suitable to them until they came under Dr. Cutler's care.

But the third case is one for the report of which the Society should feel especially grateful to Dr. Cutler. The simple operation of washing out the stomach is one which has not received the favor and attention here in Boston which is its due. As was remarked by the reader, the procedure is repugnant to many people, especially those in comfortable circumstances, and members of this class generally prefer some more tedious method of treatment which has less disagreeable associations. Those who consent to try the tube find it less unpleasant than they expect, especially after they have used it several times. Some patients of the speaker have very soon learnt how to swallow the tube themselves.

Some years ago, when making a visit to St. Luke's Hospital in New York, with Dr. Kinnicutt, the speaker saw there several patients whose stomachs were being washed out. One was asked whether the process gave her any relief, and replied: "Oh, doctor, my stomach wants it every morning just as a baby does his bath."

The reader seemed to imply that the use of the tube is contraindicated in cases of tuberculosis in the stage of cavity formation, a view from which the speaker dissented. We are all familiar with Debove's treatment of phthisis by hyperalimentation, large

[1] See page 252.

quantities of nourishment being poured into the stomach through the œsophageal tube. In some cases of nervous dyspepsia and vomiting the speaker had obtained brilliant results by introducing the tube into the stomach and pouring down a quart of peptonized milk with raw eggs, once or twice a day. The stomach can often digest more food than it is possible to swallow in the ordinary way. A patient recently under treatment, a neurasthenic with pronounced gastric symptoms, could not be brought beyond a certain point under the ordinary methods; but gained greatly in all respects from the time that the use of the tube was begun, increasing seven pounds in weight in two weeks. Insane patients are not the only ones to whom the procedure is applicable.

DR. E. S. BOLAND said that in washing out the stomach, in four cases I have passed the flexible tube through the *nose*. Passed in this way the patient can speak, is less liable to gag or vomit, and there is no more, if as much, danger of entering the larynx as when the tube is passed by the mouth. The finger need not be used to guard the larynx; so, if the patient is unconscious (as in case of poisoning) obstinately suicidal or insane, its advantage is manifest, as resistance is impossible.

We are liable to forget the capacity of the nostril. In children under eight, a three-eighth, and in adults a five-eighth inch soft rubber tube is admitted in almost every nose. Occasionally one nostril, from deformity of the septum, will be too narrow, in which case the other will be found ample. In one insane patient I have passed the tube through the nostrils more than three hundred times in the course of three or four months, feeding without injury or special suffering. Entering by the nostril the distance to the stomach may be a trifle greater, but practically the exact estimate of the distance is seldom needed, as almost always a variable collection of gas or air is present in the summit of the gastric cavity. As soon as the eye of the tube reaches this, it escapes *audibly*, and we know the stomach has been entered. This may alarm a novice who fears he has got into the air passages, especially if, as sometimes occurs, air is alternately drawn in and expelled, owing, may be, to the patient's struggles or restraint of him by the nurse. In this connection might be mentioned the curious fact often seen in feeding insane patients whose digestive function is vigorous — namely, a vigorous suction action on the part of the stomach out of all ratio to the hydrostatic pressure.

DR. STUART stated that he had lately seen a German who had previously had his stomach washed out in Vienna, and learned to perform the operation upon himself. In Boston, in lieu of an Oser stomach-tube, he had taken a piece of ordinary rubber hose (such as is used on gas lamps) about five feet long, and had used it as a siphon for washing out his stomach. He not only inserted the tube unaided, but he would fill his stomach through the tube and siphon off the fluid with great dexterity. Dr. Stuart mentioned the case, thinking it suggested an expedient that might prove of value in an emergency.

DR. C. M. GREEN called attention to the value of the soft rubber catheter as a means of introducing nourishment directly into the stomach of premature infants too feeble to suck or perhaps to swallow sufficient nourishment when fed with a spoon. The method was devised by Tarnier and called by him "gavage."[2] A No. 18 catheter (French scale) is passed about six inches down the œsophagus; the nutrient fluid, preferably breast milk, is introduced by means of a small glass funnel, and flows into the stomach by its own weight. Of course, suitable measures must also be adopted to maintain the bodily heat. By the combined use of gavage and the couveuse, or hot air cradle, Tarnier has saved infants born soon after the sixth lunar month.

DR. BLODGETT stated that an accident of peculiar character had been brought to his notice by a practitioner well known to the members of this Society, in which one of the dangers attending the passage of anything in the shape of a stomach-tube were illustrated. The patient was a woman, who was in a state of great prostration from an exhausting disease. In view of possible collapse, the physician had directed the administration of an enema of broth.

The nurse misunderstood both the direction of the physician, and that in which the broth was intended to go, and in her desire to relieve the patient, she introduced the point of the syringe into the mouth of the patient, passed it into the throat, and presumably into the glottis, and succeeded in drowning the patient with the broth which was intended for an injection.

DR. CUTLER said, in answer to Dr. F. C. Shattuck, that he should have specified more exactly the contra-indications in phthisis which was where there was advanced disease with laryngeal complications. In the earlier stages or where there was no throat symptoms he sometimes used the tube to convey food as suggested.

In answer to another gentleman who referred to the use of gas tubing, he would state that this very kind of tubing was the sort originally suggested as best fitted to use in catheterizing the stomach.

DR. JOHN HOMANS, 2d, showed a fibroid tumor of the uterus, weighing twelve pounds, which was removed the day before by Dr. John Homans. The patient was between thirty-five and forty years of age, and had suffered intensely with pain and the discomfort of the weight of the tumor. There had been frequent and considerable hæmorrhages; a year ago the uterine cavity had been scraped out by some practitioners; this had been followed by severe hæmorrhage and collapse which nearly proved fatal. The abdominal incision extended from two inches above the umbilicus to the pubes, and the stump wass ecured extraperitoneally, and touched with the per-chloride of iron. The condition of the patient on the day following the operation was, temperature 100° and pulse 90 to 100.

DR. B. F. DAVENPORT said, probably most of us have noticed in many of to-day's journals published in this city, the striking profile trade-mark of "Kaskine," the new quinine, as its manufacturers, the Kaskine Company of New York City style it. The pamphlet which accompanies the preparation says that it is a non-toxic phenol, prepared from pure bitumen, and that it is a non-secret medicine, entirely free from poison, which "entirely does away with the use of that terrible destructive drug, quinine." It further says that "though not vermin-covered, humanity is often, alas, vermin-lined," and that "until the recent great scientific discovery there was no known medi-

[2] For a full description of this method see the Amer. Jour. of Med. Sciences, January, 1886, or Vol. cxiv., No. 8, page 174 of this Journal.

cine that could reach and destroy these germs; but the power which the hound has in scenting footsteps which no human skill, can detect is the power possessed by Kaskine," and that "under its influence there can be no diseased conditions."

Such are its modest claims, yet a short time ago I had occasion to examine the preparation chemically with the following results: The sugar pellets averaged a little less than one grain in weight, and one hundred of them contained together about one-twelfth grain of quinine, about one sixtieth of arsenic, and a trace of carbolic acid. And I was told that by taking a whole bottle full of them at a time for the single test one could also find in them a trace of corrosive sublimate. Thus all four of the active antiseptics claimed for the preparation by its manufacturers are accounted for, and each can draw his own conclusions as to whether their claims for its great medicinal virtue are likely to be true.

The PRESIDENT said that Kaskine had been put on the market some two years ago, and that it had been endorsed on the tradesman's circular by the names of a number of prominent New York practitioners. Certain charts were appended as showing the antipyretic action of the drug, and these charts purported to come from Bellevue Hospital. Some time ago there was a communication published in the *Boston Medical and Surgical Journal*, to which he would refer those who cared to look up the subject.

AMERICAN DERMATOLOGICAL ASSOCIATION.[1]

ELEVENTH ANNUAL MEETING.

AFTERNOON SESSION.

CLINICAL NOTES ON PRURITUS,

by DR. L. D. BULKLEY, of New York.

Pruritus or itching, is an extremely common symptom resulting from various causes, many of which are recognizable. There are a certain number of cases in which the pruritus appears without apparent cause. It was only this last group of cases that were considered. In the present state of knowledge, it is not possible to determine the exact lesion in these cases. Pruritus may be defined as a functional disturbance of the nerve elements of the skin, resulting in itching not dependent upon local irritation or local lesion. Out of a total of 5,000 cases of general skin diseases, the author had records of eighty cases of pruritus, a proportion of about 1.75 per cent. Thirty of the patients were females and fifty males. In the majority of cases there was some chronic disease, such as gout, albuminuria and chronic bronchitis, or marked evidences of lowered general vitality. The cases were classed under the following heads, according to frequency, pruritus hiemalis, pruritus genitalis, pruritus ani, pruritus vulvæ, pruritus scroti and pruritus senilis. In quite a number of instances the pruritus proved rebellious to treatment.

Temporary benefit was obtained in some cases, while in others no relief resulted from treatment. The author was of the opinion that in many cases the condition resulted from reflex irritation.

In connection with this subject the author referred to 115 personal observations which he had made. These consisted in the production, either accidentally or intentionally, of a point of irritation in some part of the body and in noting the point at which itching was experienced. The observations were made with the object of determining whether or not there were crossed reflexes. The reflex sensations cannot be induced at will, but seem to be more readily brought about when the body is fatigued; eighty-four of the observations related to the right side of the body, while thirty-one related to the left. In all but three instances, the reflex occurred on the same side as the point of irritation. These three exceptions were as follows: irritation on inside of right knee followed by reflex itching felt over the left scapula; irritation of the right thigh, four inches above the knee, produced reflex sensation of itching at the insertion of the left deltoid; irritation of the left heel followed by reflex itching over the right side of the pubes. Irritation in the same locality will frequently on different occasions produce reflexes in entirely different localities. The results have been so varied that it is impossible to classify them in definite groups. The author offered these notes as a slight contribution which might stimulate to renewed energy in the study of pruritus, with the view of determining the causes of its occurrence and of its obstinacy.

CLINICAL NOTES ON PEDICULOSIS.

by DR. F. B. GREENOUGH, of Boston.

The speaker had been induced to examine this subject on account of the fact that the statistics of the Association had shown that there was a greater proportion of cases of pediculosis reported from Boston than from any other city. He had found, taking the statistics for nine years, that the proportion of cases of pediculosis to the total number of cases of disease of the skin was, in Boston 5.5 per cent.; in New York 3 per cent.; in Philadelphia 3.33 per cent.; in Baltimore, 2.12 per cent.; St. Louis, 1.5 per cent.; in Chicago 3 per cent.; and in Canada 0.3 per cent. In 1884, New York reported, out of a total of 2,737 cases of skin disease, no cases of pediculosis of the head. During the same year the number of cases of pediculosis pubis reported from Chicago equal that reported from all of the other cities. The only explanation of this fact that can be offered is that the difference is more in observers, than in the number of cases of the affection. An observer in one city may put under the head of eczema capitis, a case which would be considered in Boston as one of pediculosis capitis. There are three different forms of pediculi, the pediculus capitis, the pediculus corporis, and the pediculus pubis. Thus pediculi are rarely seen except in their own locality. The presence of pediculi capitus in large numbers causes cutaneous trouble. So far as the efflorescence goes, the eczema thus induced is identical with that due to other causes, but the distribution and other conditions make the diagnosis easy. The speaker had only in one instance noted the pediculus corporis on the skin, and he thought it possible that they may feed without leaving the clothing.

DISCUSSION.

DR. L. H. DUHRING, of Philadelphia. My experience with a certain number of cases of pediculi vestimentorum is that they do leave the clothing, and I have seen them feeding upon the skin.

DR. J. C. WHITE, of Boston. In regard to diag-

[1] Continued from page 234.

nosis, I have seen cases in which I have been able to make the diagnosis without looking at the head. In children where there is an eczematous eruption in certain respect resembling impetigo contagiosum, located around the orifice of the mouth, the nostrils and the lobes of the ear, I make the diagnosis of pediculosis of the scalp.

Another practical point is that pubic lice do not always confine themselves to one locality, but may be found in different parts of the body. Careful examination will show them that not only in the axilla but also on the lower extremity. In one case, that of a child, I found the pubic lice in the hair of the head. If the treatment is limited to the pubic region the result may be unsatisfactory.

In the treatment of pediculosis of the pubic region and of the head I always use crude petroleum. This does not produce the slightest irritation upon the most inflamed surface. It should be allowed to remain in contact with the hair for two or three hours.

DR. P. G. UNNA, of Hamburg. In Vienna it is the custom to consider every case of pustular eczema of the head and scalp as due to pediculi, without making any further examination. This is, I think, a mistake. Although pediculi may be present in these cases they may only be secondary manifestations, resulting from the good feeding-ground furnished by the diseased skin.

DR. J. N. HYDE, of Chicago. The great predominance of cases of pediculosis pubis, in Chicago, which has been referred to by Dr. Greenough, may perhaps be explained by the fact that during the winter season when navigation is closed, many seaman congregate there. During the summer these men have been engaged along the coast and have indulged in all kinds of debauchery. They come under observation often in a very filthy condition, suffering with syphilis, pediculi and blenorrhagia.

DR. L. D. BULKLEY, of New York. I have heard no reference to a little lesion made by the pediculus corporis, to which attention has been directed by Dr. Tilbury FOX, and one which he considers of diagnostic value. This is a little hæmorrhagic spot resulting from the insertion of the proboscis of the pediculus into a follicle of the skin during the process of feeding. I should like to know if any of the members have put any trust in this as a diagnostic sign?

The President, DR. H. G. PIFFARD, of New York. A number of years ago I collected several pediculi vestimentorum and watched the process of feeding. I was able to verify the statement of Dr. Tilbury Fox. The proboscis of the pediculus corporis is not a cutting instrument, but is apparently inserted into a cutaneous follicle. After its removal, a minute droplet of blood will appear, which after a few hours becomes black. This sign is often of considerable value in diagnosis. In the treatment of this affection crude petroleum seems preferable to kerosene, which is sometimes used. I know of two cases in which the use of kerosene produced a violent dermatitis. Crude petroleum is less irritating to the skin, and is to be preferred in the treatment of pediculosis.

DR. J. C. WHITE, of Boston, read a paper entitled

AN INTRODUCTION TO THE STUDY OF THE INFLUENCE OF DIET IN THE CAUSATION AND TREATMENT OF SKIN DISEASES,

in which he spoke of the unfounded prejudices which exist in the public mind against certain harmless articles of food, and of the unproven opinions held by the profession upon the same subject. He pointed out the fallacious character of the evidence upon which many of these views were based, and described what seemed to him to be the proper methods of studying the subject. In conclusion, he enumerated the few substances which in his experience could be held as causative of disturbances of the skin when eaten.

DISCUSSION.

DR. J. N. HYDE, of Chicago. I can agree with the reader in regard to most of the articles of food mentioned. I should, however, put oatmeal in the list of foods which occasionally produce cutaneous trouble. I have seen one case in which an eruption on the face was always produced by the ingestion of this article even when used without the addition of anything else. I have in several cases thought that urticaria had been induced by the use of the Natal or seedless orange. Where urticaria follows the use of the grape, I think that it is principally due to the fact that the seeds and skin of the grape are also swallowed.

DR. E. B. BRONSON, of New York. While these articles of diet may have no specific effect on the production and course of skin affections, they may act in a reflex manner by causing disorders of the digestion. Many of them probably owe their effect to the fact that they are unaccustomed articles. Newly arrived emigrants frequently suffer from erythema and urticaria; this is especially true for emigrants from Ireland. This I have attributed to the radical change made in the diet, and have had good results by ordering the patient to return to his former diet, consisting largely of potatoes.

DR. E. WIGGLESWORTH, of Boston. I think that with oatmeal the effect depends largely on the size of the grain and the method of cooking. If not thoroughly softened, it may cause irritation of the mucous lining of the stomach and bowels, and induce urticaria, which as a result of scratching may pass into secondary eczema. It seems to me that salt air has some injurious effect in cases of eczema. My patients with eczema do better in the mountains than at the sea-shore. In the case of acne it is the reverse. Such patients are usually benefited by the sea-air.

DR. G. H. ROHÉ, of Baltimore. There seems to be no doubt that certain articles of diet, such as crabs and oysters, affect the skin more frequently than others, and yet I know of so articles so readily digested as oysters. The fact that they are unaccustomed articles of food may explain their effects to a certain extent; I have seen pruritus induced, as I supposed, by the use of buckwheat.

DR. P. G. UNNA, of Hamburg. In my private hospital I allow a liberal diet, and I rarely find it necessary to impose any restriction. I make it a point, by close questioning, to find out what articles seem to exert an unfavorable influence upon the condition of the patient, and then direct that they be avoided. I have seen urticaria produced by strawberries in cases where the berry has not been swallowed, but simply placed in the mouth.

DR. L. D. BULKLEY, of New York. I have more than one patient who cannot take raspberries without having urticaria. In some cases pineapples have a similar effect. Personally, I pay a good deal of at-

tention to the diet. Milk has not been referred to. I see many patients in whom injurious effects have followed the use of milk with the meals. If taken between meals it produces no injury. I have found that almost every case of acne is aggravated by soap taken with the food.

Dr. Le Grand N. Denslow, of St. Paul. I think that in this connection the quantity of food taken is of importance. Many people who do not lead active lives eat too much, and I have found it of advantage in certain cases to restrict the patient to one meal a day, allowing him, however, to eat all that he wants at this time. I would add to the injurious articles already mentioned, pork, veal, and anything fried.

(To be continued.)

[Special Report for the Journal.]

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

GENERAL SESSIONS.[1]

FOURTH DAY. — THURSDAY, SEPTEMBER 8TH.

On the day of the meeting, the General Session was called to order by the President, who announced the Committee of seventeen to determine the place and time of the next session, the Committee organizing with Dr. Semmola, of Naples, as Chairman, and Dr. Assiky, of Bucharest, Secretary.

The Congress then adopted a resolution recommending the coöperative investigation of the results of yellow-fever inoculations as a preventive of that disease, in pursuance of the experiments of Dr. Domingo Freire, of Brazil.

The Congress then adopted a resolution commendatory of the proposed celebration, in 1892, of the discovery of America by Columbus.

Dr. Martin, of Berlin, was then called to the chair, and Dr. P. G. Unna, of Hamburg, then delivered, in German, an address upon

THE RELATIONS OF DERMATOLOGY TO GENERAL MEDICINE.

Dr. Unna's audience was not large, being confined mostly to Germans and those who could understand German. This paper embodied a plea for the more thorough study of skin diseases, and set forth with great force the importance of a wider spread of knowledge of the subject. He described with elaboration the difficulties which beset the path to a complete understanding of this subject, and the measures of success which had resulted from recent experimentation. He ended with a recommendation for the establishment of a central institute, where noted scientists may work together, and where all means and methods of study may be considered. This would, he believed, raise dermatology to the rank of one of our most important specialties in medicine, and would contribute largely to the progress of knowledge in all branches of medicine. He expressed the hope that the United States, always so liberal for the promotion of science, would be the first to develop this idea.

FIFTH DAY.— FRIDAY, SEPTEMBER 9TH.

A fair-sized audience gathered in the Opera House on Friday, the last working day of the Congress.

In accordance with the report of the Committee appointed the day before, Berlin and 1890 were selected as the place and time of the meeting of the next Congress. This was supposed to have been settled in Copenhagen three years ago, and by the same token, it may be assumed that St. Petersburgh will claim the prize in six years from now.

Dr. Davis then yielded the chair to Dr. J. D. Phillips, of London, and Dr. G. Fielding Blandford, of London, proceeded to deliver a paper upon

THE TREATMENT OF RECENT CASES OF INSANITY IN ASYLUMS AND PRIVATE HOUSES,

which had been originally prepared for one of the Sections. It was descriptive of various typical cases of mania or dementia met with in the practice of physicians, and suggested modes of treatment. He described many cases of mania that could be treated successfully at home, if the family was willing to defray the cost. But nine cases out of ten, he said, should be removed to a more suitable place. Dr. Blandford remarked that to harness a patient to a bedstead by his wrists and ankles was not treatment, though, unfortunately, even in this day, such practices were occasionally met with. He spoke of the reluctance that was felt by relatives of persons needing treatment to sending such to an asylum.

The non-asylum treatment of persons suffering from depression and melancholia, he said, has generally been tried before the services of the specialist are called in. Asylum treatment was necessary in most cases of suicidal patients, though, as shown by the report of the English commissioners of lunacy, confinement in an asylum did not always prevent suicide. Melancholia was the most tedious of all curable forms of insanity, because weeks and months were often required. So the question of expense came in in the cases of poor patients. To properly care for them at home would involve great expense. Then, to keep them in their old surroundings, was likely to aggravate the malady. The exaggerated egoism was a noticeable feature of such cases. At home, where they were the centre of attention, this was encouraged. In an asylum, where the patient became one of many, where he sat at the table with twenty or more others, and no one seemed to care whether he refused his food or not, it was different. The best treatment in many such cases, Dr. Blandford said, was what he called judicious neglect.

CLOSING SESSION.— SEPTEMBER 10TH.

A moderate audience assembled Saturday morning. The proceedings consisted of speeches by foreign delegates, who lauded the various committees of arrangement for the success of the Congress, and expressed their gratification at the hospitality received from the citizens of Washington, the President of the United States, and the Government officials. Surgeon-General Hamilton responded. He said the success of the Congress was due to the presence of the foreign doctors.

President Davis then made a few remarks, declaring this the greatest medical congress ever held, thanking the officers and delegates for their courtesy to the chair, and expressing his hope to meet many of the present delegates at the Berlin Congress.

Shortly after ten o'clock, President Davis declared the Congress adjourned *sine die*.

Most of the delegates then took the steamboat for Mount Vernon.

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On the return from Mount Vernon, the foreign delegates were taken by special train to Niagara Falls, whence they were brought back Tuesday.

Wednesday evening there was no especial form of entertainment for the members of the Congress, outside of several private receptions. On Thursday evening occurred the great social event of the week, the "Reception by the Citizens of Washington," at the United States Pension Hall. Tickets to this were issued to the members of the Congress when they registered, but, on account of the goings-on at the gathering on Monday night, emphasized by the somewhat parallel scenes at the White House the next evening, all these tickets were cancelled, and new ones had to be obtained upon exhibition of each delegate's badge and certificate. The *Washington Post* thus speaks of Monday night's affair: "A humiliating experience was the presence of people whose appearance was not such as to give a flattering opinion to foreigners of American society customs. By some failure to comprehend the instructions given to those in immediate charge, gamins from the sidewalks, and laborers in their working-clothes, made their way in with those invited to greet and honor the visitors. A few creatures stalked about the great hall, wearing straw or slouch hats, and smoking cheap cigars, as at a country fair. The unwashed were few in number, in comparison with the better bred, but were all the more conspicuous."

The arrangements for this second gathering were far more successful, though it was a great bother to get the requisite new ticket. The foreigners were taken in by a side door, and, although there was a great crowd, there was plenty of room, no objectionable persons, and a few pretty dresses. The hall, itself a grand room, was handsomely decorated with bunting, and lit with both gas and electricity. More or less of those present were introduced to the officers of the Congress and some of the foreign guests, and the Marine Band played for the rest to promenade. A space at the lower end of the hall was screened off, and tables set around the three sides, behind which stood a corps of waiters. When the screens were removed, there was a mad rush for the tables, and, for the first hour, there was an animated struggle for provisions, men standing up to the tables six deep, the rear ranks vieing with the front in the endeavor to get or deposit dishes. American champagne flowed freely, and there was enough to feed all. The *menu* was very handsome, and made a beautiful souvenir.

SECTION OF GENERAL MEDICINE.[1]

WEDNESDAY, SEPTEMBER 7TH.

Wednesday afternoon's session attracted from fifty to sixty attendants.

The first paper was by DR. JOHN A. OUCHTERLONY, of Louisville, Ky., upon,

THE NATURAL HISTORY OF DISEASE.

Diseases, he said, are natural, though not normal, conditions. Nature is more powerful to cure than we admit in theory even, and much less in practice. Our knowledge of the natural history of disease is yet limited and we are prone to regard our treatment as potent. Our knowledge of familiar diseases has been completely altered in recent years, as, for example, the microbigenesis of phthisis and pneumonia. And yet, too, even in this Congress, the proved theories in regard to the pathogenesis of these diseases have been denied and derided. The cause of such wide diversity of opinion is to be found in our ignorance of the natural history of disease. Knowledge can be gained only by the concurrence of a large number of observers. Could we leave to themselves a large number of patients, we could judge of the natural history of their maladies. The plan is difficult of application, but the immense benefit should outweigh all objections. We treat hospital patients with drugs little, if at all, known. The nature that inflicts disease is likely to cure it. There are authentic instances of the spontaneous cure of even tuberculosis and cancer. The tendency to a spontaneous cure in acute cases is well known. The *vis medicatrix naturæ* is a living reality since under inert drugs recoveries so often occur. And recoveries take place from the same disease under exactly opposite treatment. Even in the hands of the ignorant and quacks patients often get well. In view of these facts, it would be perfectly justifiable to leave certain patients to themselves to observe the course of their maladies. Not all could be thus left; but even in private practice opportunities will occur, and it could well be done at hospitals. Especially should the teaching of the day be directed to encourage students to observe the natural history of disease.

The paper provoked a little discussion, and a remark by DR. SCOTT, that the man who keeps up to the times in therapeutics is a good physician, and that he himself had faith in medicine, evoked applause.

DR. T. D. CROTHERS, Secretary of the American Association for the Cure of Inebriety, then read a paper upon,

THE DISEASE OF INEBRIETY AND ITS TREATMENT.

Inebriety, he said, had been lately recognized as a disease, controlled by certain laws. Heredity, shocks, structural changes in nerve centers, unstable cerebral organization, certain diseases are all related causally. The craving for spirits is not the disease, but a symptom of it. The diseased nerve centres crave something in the shape of a narcotic, which craving, alcohol best supplies. The nervous degenerations may be central or not. The intervals between the paroxysms may be definite or variable. The phenomena of the paroxysms suggest the nerve storms of epileptics. The mental state is variable. Inebriety in America is becoming more marked in mental phenomena, more often concealed by the patient, more often ends in organic disease. It is on the increase in this country, while the moderate drinkers are decreasing. There is an ebb-and-flow movement in the amount of inebriety. Temperance agitators have a similar wave-like movement. The agitation for the cure of inebriety is increasing. Moral means, prohibition, educational methods have been tried and found ineffectual. Every inebriate sent to jail is more unfitted for temperate living. He suffers from cerebral anæmia, and needs better food and other influence than that of the jail. All the efforts of church, State and society are merely increasing the number of inebriates. And yet inebriety is a curable and preventable disease. Inebriates should be quarantined and treated like the insane, since they are insane. This could best be done in workhouse hospitals of different sorts for different classes of cases, whence those who had apparently re-

[1] Continued from page 239.

covered should be released on parole. Their practical success is demonstrated by the results of even such inebriate hospitals as there are, of whose cases twenty per cent. are cured.

A discussion followed, in which the relative merits of close confinement and religious influences as methods of treatment occupied a prominent place.

DR. W. R. CISNA, of Pennsylvania, produced a paper upon

TYPHOID FEVER.

After discussing the differential diagnosis, he considered the course of the disease, advised the expectant treatment, and laid stress upon the careful management of convalescents.

THURSDAY, SEPTEMBER 8TH.

An audience of forty or fifty people met Thursday morning and listened to a paper by DR. EPHRAIM CUTTER, of New York, upon

THE MORPHOLOGY OF RHEUMATIC BLOOD.

Dr. Cutter claimed to have found in the blood of rheumatic patients certain crystalline and other formations, illustrations of which, enlarged from microscopic views, were exhibited by a lantern.

DR. MARIANO SEMMOLA, of Naples, then read, in French, a paper upon the

PATHOLOGY OF ALBUMINURIA.

He further evolved his well-known views, as stated in previous publications, and further illustrated them by the results of recent laboratory and clinical observations made at Naples.

DR. R. SINGLETON SMITH, of Bristol, England, then presented a paper upon

INTER-PULMONARY INJECTIONS IN THE TREATMENT OF PHTHISIS,

taking the ground that they were of some value and should be tried when other means had failed. He also alluded to the Bergeon method of gaseous enemata, denying its usefulness.

Each of these papers were succeeded by a brief discussion of the point involved.

THURSDAY AFTERNOON.

The feature of Thursday afternoon, and, in fact, of the whole session of the Medical Section, was a paper upon

DIABETES,

by DR. F. W. PAVY, of London, Eng., the well-known authority upon dietetics, which attracted an audience of a hundred and fifty, and was greeted by warm applause at its close. After an apology for the necessary incompleteness of his extempore address, Dr. Pavy went on to say that diabetes has always been considered an inscrutable disease, but that its nature may be expressed in precise terms, without entering upon theoretical questions, as a faulty disposal or assimilation of certain elements of food. Food may be divided into three classes: nitrogenous, fatty, and the carbohydrates; and it is the latter group, without distinction between its members, that is the subject of faulty disposal in diabetes. In health an ingested carbohydrate is lost sight of, and we may assume it is transformed for utilization by the economy. In diabetes it is eliminated as sugar and in proportion to the carbohydrate ingested. The sugar reaches the general circulation in a way it ought not to. In health there is but a faint trace in the general circulation, so that the ingested carbohydrate is stopped on its way, while in diabetes it exists in large quantities in the general circulation, whence it is removed by the kidneys. And the proportion in the urine is the proportion in the blood. Why it gets into the blood is the essential question. The liver is the a-similative organ and stays the carbohydrate in its progress. People who eat much of the carbohydrates grow fat, as do the lower animals when fed on them. So that the liver seems to be really rather a steatogenetic than a glycogenetic organ. The carbohydrate, changed first into glycogen and then into fat, passes away from oxidation rather than towards it. In diabetes there goes on a faulty chemical process in the liver and a wrong condition of the blood of the portal vein. The liver has a comparatively small supply of arterial blood, but a large supply of venous blood. When it does not have good venous blood, there is sugar in the urine, as shown by injecting arterial blood into the portal vein, or when the blood of the system is over-oxidized as shown by the respiration of oxygen or carrying on respiration to excess. To produce a similar condition, we need only a vaso-motor paralysis of the vessels of the chylopoietic viscera. If the arteries of the abdominal viscera are dilated and allow the passage of more blood than can be de-arterialized, then the portal vein gets imperfect venous blood, and this permits the carbohydrates, charged with glycogen, to pass through the liver into the general circulation. The vaso-motor paralysis may extend beyond the chylopoietic viscera. For example, the worst forms of diabetes in the speaker's practice were those accompanied by an intense redness of the mouth, tongue, etc. It is well known that puncture of the floor of the fourth ventricle causes glycosuria in the same way, as does also vision of the sympathetic. In the speaker's opinion, diabetes was a disease of a neurotic nature, as he had found that nerve conditions, as well as food, influenced the patient, and nerve conditions might affect the chylopoietic viscera.

Difference of opinion as to diagnosis, depends sometimes on the relation of glycosuria to diet, and sometimes upon error in the test. The best test is with copper, but Fehling's solution is liable to get bad from keeping, and the potash fixes the stopper in the bottle. Its ingredients (copper, Rochelle salt, and potash), can be made, however, in an anhydrous form in a pellet and used just like the solution. In a well-stoppered bottle they keep forever, and if moisture does affect them, they get so bad and black as to be evidently useless. But we are still in the dark unless we know the amount of sugar. One needs two specimens, one of the urine passed on retiring at night, and one on rising in the morning. These will enable us to detect errors of diet, even the meal at which carbohydrates were taken, and sometimes even call attention to unconscious mistakes in diet. For example, blanc mange, properly made with gelatine and cream, has caused glycosuria by being made of corn starch. The quantitative estimation needs to be easily and accurately done, and the ordinary means, by Fehling's solution, can be greatly improved upon by making an ammoniated solution, which permits the reduction but not the precipitation of the copper. Therefore, the exact moment when the blue cupric solution is decolorized can be plainly seen, not being obscured, as in

the ordinary method, by the precipitated suboxide. Sometimes albuminuria is present. At first it may be considerable, but under the dietetic treatment, usually disappears. This suggests a test for albumen. The most convenient one consists of two pellets, one of citric acid and the other of ferrocyanide of sodium. Dissolve the citric acid in the suspected liquid and there may be a precipitate (usually uric acid), which disappears on dilution. Then dissolve the ferrocyanide pellet, and there is a precipitate if albumen is present. Nothing else is needed; the test is very delicate, and the precipitate is caused by nothing else but albumen.

There are many grades of the disease, varying in intensity. A healthy person, fasting, may consume an excess of carbohydrates and then have glycosuria. The first step in the diabetic process occurs when the assimilative powers are a little below par; it may reach a state where sugar is excreted without the ingestion of any food, sugar being formed from the body itself. The severest cases are in the young. The older the patient, the better the prognosis. No disease of the young is graver. The speaker never knew a young diabetic recover. The ordinary duration in a young person is two years. In the middle-aged or the old, it is their own fault if they go wrong. It is common from forty to sixty, which was the age in fifty-five per cent. of the speaker's 1360 cases. It may go on for some time unrecognized, which is shown by the presence on cast-off clothing of the white spots diabetic urine leaves. It runs in families in a marked manner. The speaker instanced a case where four out of five children had it, the mother and grandmother having died with it. In elderly diabetic patients there are often pains in the legs, more or less ataxia, hyperæsthesia, and paræsthesia of the skin, tender flesh, aching bones,— apparently a peripheral neuritis.

In the young, the progress of the disease can merely be stayed. There is no cure. There may be under treatment great temporary improvement, but the disease is progressive nevertheless. The sugar, if for awhile absent, reappears and goes on increasing. The thirst and polyuria may even yet be checked, but the disease goes on, something throws the patient off his balance, and he dies with diabetic coma. It is quite different, however, after the middle period of life. Here there are two points to be looked to — not to feed the disease, and to convert the wrong assimilative action into the right one. The regulation of the diet is an absolute necessity. This is easy enough in some ways, but hard in others. Any animal food will do, meat, fish, game, eggs, butter, cheese, milk sparingly. As to bread,— brown bread, usually has plenty of starch; gluten bread may be palatable, but is apt to be largely starch. Probably bread made from almonds which contain only seven to eight per cent. of carbohydrates and fifty per cent. of fat, is the best. To alter the assimilative functions, nothing seems so good as some form of opium, morphia or codeia. The speaker used them and believed them to have a restraining influence upon the disease. After a few months of freedom from glycosuria, the speaker allowed patients two ounces of bread per diem. If this were well borne, after a while he increased it to three ounces, then to four and one-half, then to six, and then, after a longer interval, they often returned to ordinary diet, and had no glycosuria. Sometimes, however, with the restoration of bread, the glycosuria returned. It is to be remembered that the diabetic patient has an aptitude for any disease. If his condition is neglected, life is gradually sapped.

In reply to questions, Dr. Pavy said that Jews had a peculiar predisposition to diabetes. It was more common among them, and more amenable to treatment. He was not a believer in acetonæmia. Bromide of arsenic had no value except while it was being given. Ten or twelve months was the age of the youngest diabetic he had ever seen.

The next paper upon

THE ÆTIOLOGY OF PHTHISIS

by DR. C. D. F. PHILLIPS, of Edinburgh, was read by DR. STOCKMANN, of Edinburgh.

From the writer's experiments with a substance extracted from the sputa of phthiscal patients, he had been led to believe that the disease was due primarily to the bacillus tuberculosis, which produced a ptomaine, and that this caused the sweating, fever, and other symptoms of phthisis. In his experiments this appeared to be antagonized by atropine, which explained the therapeutic value of the latter in phthisis.

This was followed by a paper entitled

SOME CONSIDERATIONS UPON THE PATHOGENESIS OF DISEASES OF WOMEN,

by DR. W. B. NEFTEL, of New York.

Experiments by the author upon animals, suggested that compression of the chest might induce death by arterial anæmia and venous stasis, but not by tuberculosis.

FRIDAY, SEPTEMBER 9TH.

Friday morning a moderate sized audience was present.

DR. GEORGE E. STUBBS, of Philadelphia, presented a paper upon

THE RATIONAL TREATMENT OF DISEASES OF THE RESPIRATORY APPARATUS,

in which, after a consideration of the anatomical structure of the lungs, he went on to consider phthisis more in detail, advising the treatment by counter-irritation, tonics, expectorants, cod-liver oil, or cream, and atomized inhalations.

DR. EGE, of Reading, Penn., in the discussion detailed his method of treating pulmonary tuberculosis, which consists in the deep inhalation of an atomized solution consisting of the white of egg and water, allowed to stand for some days. The microbes developed in the egg solution were supposed in some way to influence the bacillus tuberculosis. Under its use the cough grows looser, and the symptoms of phthisis decline. The bacilli of tubercle at first increase and then decrease to *nil*, when a cure is effected. The solution may be called an impure cultivation of the bacterium termo.

The next paper was by SIR JAMES GRANT, of Ottawa, Canada, upon

DIPHTHERIA.

He had seen, in Canada, two classes of this disease, one simple, and the other so malignant that the internal carotid artery even sloughed, and the patient died of hæmorrhage. He considered it a blood-disease, and that the essential thing in treatment was to determine the poison from the throat. To do this, he gave

daily mustard-baths, and, under this method, had had sixty-three recover out of sixty-five, one dying from tracheal diphtheria, and one from cardiac paralysis. He drew especial attention to the danger from a weak heart in the later stages.

FRIDAY AFTERNOON.

The closing session of the Medical Section was held Friday afternoon, with a good attendance. The Section adopted the report of a Committee appointed to examine into Keller's statistics on vaccination in Hungary, denying their claim to repute, and endorsing Korosi's position in regard to them.

In default of expected material, Dr. Abram Arnold, President of the Section, came to the rescue with a paper upon

FATTY AND DILATED HEART.

After a consideration of the pathology and symptoms of weak heart, he passed on to its treatment. Digitalis answered well for a while, and, when that failed, strychnine, in his hands, had proved of great value in large doses, even up to one-tenth of a grain, given three times daily. He believed the new treatment of exercise was founded on rational principles.

Dr. G. E. Fell, of Buffalo, N. Y., then read the final paper, upon

FORCED ARTIFICIAL RESPIRATION IN OPIUM-POISONING,

founded upon a recent case in his practice, where, by tracheotomy and forced respiration by means of the machines used in physiological laboratories for artificial respiration in narcotized animals, he had resuscitated a man apparently in *articulo mortis*, after all other means had been tried. The patient had taken from fifteen to twenty grains of morphine, the respirations had come down to one per minute, the pulse could just be detected, cyanosis had appeared, and the pupils were widely dilated.

This was succeeded by discussion and final adjournment.

SECTION ON GENERAL SURGERY.[1]

TUESDAY, SECOND DAY — MORNING SESSION.

The first paper read was entitled

A NEW FORM OF ABDOMINAL SUPPORTER,

by Dr. Felix Debaker, of Roubaux, France.

This supporter differs from most others in being thickly padded. It receives its support from behind and encircles the abdomen, grasping it as a hand. It sustains the intestines which tend to bear down upon the uterus. It gives relief to the lateral ligaments which have been stretched during pregnancy. It supports the muscle and skin over-distended during pregnancy.

THREE HUNDRED AND EIGHTY-FOUR LAPAROTOMIES FOR VARIOUS DISEASES,

by Dr. John Homans, of Boston.

The author confined himself wholly to his own experience. Of the 384 laparotomies, 282 were ovariotomies; 27 removal of uterine tumors; 19 simple exploratory laparotomies; 15 laparotomy and stitching the ovarian cyst to the skin; 5 removal of uterine appendages, for fibro-myoma; 5 removal of uterine appendages, for nervous diseases; 1 pyosalpinx; 1 tubo-ovarian; 1 abdominal abscess; 2 removal of immense lipoma; 4 intestinal obstruction; 3 renal tumor; 1 perityphilitic abscess.

The general method of operating is as follows. The sponges are prepared by soaking in 1-1000 corrosive-sublimate solution. They are then wrung out dry by an ordinary wringing machine. They are then kept in a 1-20 carbolic solution. The carbolic spray is always used, although it was considered unnecessary. An electric light is always kept in readiness.

Of the first five unantiseptic operations all the patients died. Of the antiseptic operations 248 recovered, and 34 have died. The vitality or viability of the patient has much to do with the result of the operation. The usual causes of death have been peritonitis or septicæmia. He was sceptical about the occurrence of mechanical intestinal obstruction, except as the intestines are paralyzed by peritonitis. Two cases in which the bladder was wounded during ovariotomy, recovered and are living, two and six years respectively after the operation. In both cases the opening in the bladder was closed with silk sutures. Of the recoveries, nine patients died of abdominal cancer a few months or years after recovery, and thirty have ventral hernia. Fifteen children have been born to eleven women out of about two hundred heard from. The sexes do not correspond to the ovary remaining.

The usual length of the incision is about two inches. The stump is always tied, burned, and dropped back. Silk sutures are used, and care is taken to include all the abdominal parietes, particularly the transversalis fascia. Drainage was used in fifteen cases. The greatest number of consecutive recoveries after ovariotomy has been thirty-eight. The author had never seen a suppurating ovarian cyst but once, and in that case the cyst had been tapped. There are cysts which contain fat and sebaceous matter, and to the naked eye their contents look exactly like laudable pus, and can only be distinguished from it by microscopical examination. There were two cases of swelling of the parotid gland after ovariotomy. Both recovered quickly, and the speaker did not regard enlargement of the parotid during convalescence as of especial importance.

The cases of removal of uterine fibroid tumors number twenty-seven, with seventeen recoveries. The later cases have nearly all recovered. The operation is never done unless the patient is in danger of her life from hæmorrhage, mechanical pressure, or exhaustion, or she suffers severe pain.

In the cases of ovarian cysts, uncomplicated except by adhesion, where the tumor could not be removed, and in which the cyst was stitched to the abdominal wall, numbering nine, recovery has followed. The author had but one case of collection of pus in the abdominal cavity, which was treated successfully by laparotomy and drainage.

Of salpingitis and abscess of the ovary due to gonorrhœa, there had been one case. This was treated by removal of both tubes and one ovary, the other ovary being so adherent that it could not be removed. The patient recovered. Of removal of large intra-abdominal fatty tumors, there were two cases, both ending fatally. The speaker had one case of operation for closure of Meckel's diverticulum in an infant of five months of age, resulting in complete cure. In one case of intestinal obstruction caused by Meckel's diverticulum occurring in a young man twenty-one years

[1] Continued from page 241.

of age, the case resulted fatally. One case of cure of tubercular peritonitis and dropsy, by laparotomy was reported. The patient is now fat and healthy, three years after operation.

Three cases of removal of the kidney for sarcoma, caries and abscess were operated on with fatal result. There were five cases of lumbar colotomy, or pubic colotomy, three of which were successful. The author had removed a fibroid tumor in the abdominal fascia and peritoneum of the right lumbar region by laparotomy. The patient is now in good health, four years after operation.

A number of cases of special interest were briefly reported and an exhaustive table of all the cases operated on was given.

The following résumé was given.

282 Ovariotomies, ...	248 recoveries,	34 deaths.
27 Hysterectomies, ...	17 "	10 "
32 Partial removals of uterine and ovarian tumors, ...	10 "	22 "
19 Exploratory operations, . .	16 "	3 "
10 Removals of uterine appendages,	9 "	1 "
14 Miscellaneous laparotomies, .	5 "	9 "
348 Laparotomies.	305 "	79 "

AN IMPORTANT POINT CONNECTED WITH ABDOMINAL SURGERY,

by DR. ADDINELL HEWSON, of Philadelphia.

The point referred to was in connection with the coaptation of the wound after laparotomy. The diminution of the number of ligatures and the lessening of their irritating properties is of great importance. The abandonment of sutures was recommended, the wound being kept in apposition by means of gauze secured on each side by book-binders glue. The glue is not applied nearer than one-half inch from the wound. This dries as quickly as collodion, dries on a moist surface, and holds securely. Gauze so secured, will support twenty pounds to the square inch. It is not disturbed by motion or distension.

WHEN IS COLOTOMY JUSTIFIABLE?

by DR. J. M. MATHEWS, of Louisville, Ky.

The following conclusions were presented:

(1) Colotomy is not justifiable in cases of cancer of the rectum.

(2) In stricture or obstruction of the rectum from whatever cause, within three and one-half inches of the sphincter, colotomy should not be done.

(3) The operation is not warranted in cases of ulceration of the rectum unless of specific origin and accompanied with stricture beyond the reach of the finger.

(5) Colotomy should not be performed for the presence of a tumor or aneurism, causing pressure on the bowel.

(5) In cases of congenital occlusion of the rectum, the operation is not to be recommended.

(6) In cases where the operation is looked upon as a *dernier ressort*, colotomy should not be done save for total obstruction, of benign or specific origin, located farther than three and one-half inches above the sphincter.

Where the rectum or sigmoid flexure is closed by a stricture of benign or specific origin, colotomy is indicated.

The reasons for advising against colotomy in the cases given above were first, that the operation does not prolong life; second, admitting that life could be prolonged, the operation is not advisable; third, instead of prolonging life surgical interference shortens life, and fourth, the pain is not materially lessened by the operation. Where the disease is located within three and one-half inches of the sphincter, it may be treated by division. In other cases rectotomy was recommended.

The discussion on the papers on laparotomy was postponed until the afternoon session, and it was decided to at once proceed with the discussion of Dr. Mathews' paper.

DISCUSSION.

DR. DAWSON, of Cincinnati. I agree that colotomy is a fearful resort. I have never performed it with any satisfaction to myself and but little to my patients. There are, however, cases in which it seems to be indicated. I have now a patient, a young man of seventeen years, with an immense cancerous mass in the rectum almost beyond the reach of the finger and narrowing the calibre of the bowel to one-half inch. There is, however, not the slightest sign of cachexia. The growth is accompanied by extreme pain. I have almost decided to open the abdomen, and if possible remove the mass with a portion of the gut. This operation has been done in Europe, but it is not old enough to enable us to judge of the results to be obtained. In syphilitic cases, where there is stricture, the stricture disappears under anti-syphilitic treatment.

DR. J. M. QUIMBY, of Jersey City. I agree with Dr. Mathews in the views that he has expressed. I have performed operations similar to that suggested by Dr. Dawson, but the result was not satisfactory. Unless there is total stricture, the operation is hardly justifiable.

DR. SAMUEL BENTON, of London. I understood the author to say that colotomy is not to be recommended for total obstruction due to cancer of the rectum. My practice is, if I can get beyond the cancer, to do extirpation. If the growth is so high that I cannot remove the whole of it, I perform colotomy. I would recommend colotomy in these cases of cancer of the rectum. In the cases that I have done, life has been prolonged about fifteen months after colotomy. The last case lived about eighteen months. There was complete obstruction, and, if operation had not been performed, the patient would have died in two weeks. It is my experience that the straining and bearing down at stool is relieved by colotomy. The growth, to a certain extent, remains at a standstill, and a considerable amount of the pain is relieved. After rectotomy, the stricture quickly returns. I treat benign tumors by electrolysis. This quickly relieves the stricture. The treatment is safe, and can be continued while the patient remains at his ordinary work. I do not say that the stricture does not return, but it can be kept down by a repetition of the electrolysis, or by dilatation practised by the patient.

DR. J. W. C. O'NEIL, of Gettysburg. The proper course to be pursued in the case referred to by Dr. Dawson would be to put the patient under chloroform, inject the mass with carbolic acid, and scrape it out. This will afford relief.

DR. J. W. HAMILTON, of Columbus. I would utter a word of warning against the use of carbolic acid in the treatment of diseases of the rectum. The use of this agent is fraught with danger. Where there is

obstruction, due to cancer of the rectum, colotomy should be performed.

Dr. E. M. Moore, of Rochester. With reference to the case of Dr. Dawson, I would say that it is extremely rare to have cancer in a person only seventeen years of age. At that age, sarcoma is very common. This is not accompanied by the cancerous cachexia, and every surgical operation for sarcoma is a failure. I would strongly object to the operation proposed, and would recommend colotomy.

Dr. W. N. Hingston, of Montreal. The operation of colotomy should be performed where there is obstruction. It also relieves pain. When the whole of the mass can be gotten away, rectotomy should be performed.

Dr. J. W. C. O'Neil, of Gettysburg. I have used carbolic acid for ten or fifteen years, and, as a general rule, have found it of value.

Dr. Mathews. I would merely say that carbolic acid is a hazardous remedy, and has caused much damage, and has led to hundreds of deaths.

Adjourned.

AFTERNOON SESSION.

DISCUSSION OF PAPERS ON ABDOMINAL SURGERY.

Dr. W. N. Hingston, of Montreal. It has been said that hæmorrhage and shock are misleading, and I agree with this. Fæcal discharge clearly indicates operation. The rule to operate when in doubt is a good one, for the exploratory incision cannot add to the risk.

With reference to the length of time required for operation, while it is desirable to operate with all possible speed, all hurry should be avoided. Time is not of such moment as is generally supposed. It has been asserted that gangrene was not the result of interference with the arterial supply. This is contrary to all of my previous ideas, but I am not in a position to deny it. Dr. Senn's paper is, without exception, one of the ablest papers I have ever listened to.

Dr. Homans speaks of having had ventral hernia in ten per cent. of his cases. This strikes me as large, and I would ask how he closes the abdominal wall, whether he takes only the skin and peritoneum, or includes everything.

I would direct particularly attention to the Doctor's statement that he has performed five operations of removal of the ovaries for nervous disease, with only one success. This is quite different from the reports usually made. The removal of normal ovaries seems to be epidemic in certain places. I have never removed an ovary weighing less than fifteen pounds. The immunity that attends abdominal section has made these operations very, very frequent.

Dr. J. B. Murphy, of Chicago. In the three cases which I have had there has been no shock, and no appearance of fæcal matter in the wound, although, in one case, there were eleven wounds. While, in the majority of cases, the median incision is the best, there are cases in which enlargement of the wound is to be preferred. The operation should be done early, for, after severe peritonitis has set in, the operation will be of little service. If there is penetration, an exploratory operation will not add to the danger; and, if the intestine is wounded, death is certain.

Dr. W. F. Beck, of Davenport. I would report a case in which I opened the abdomen of a man apparently suffering from intestinal obstruction. I found a portion of the ilium strangulated under an adherent vermiform appendix. I tied the appendix in two places, and divided it. The patient made a complete recovery. There were no antiseptic precautions adopted in this case. With an experience of seventy-eight cases of ovariotomy, it seems to me that our results are improving, and, as we devote ourselves more to aseptic surgery, and less to antiseptic surgery, I think that our results will be better.

In the treatment of the pedicle, I do not use ligature, but rely on the actual cautery, not having the iron too hot, and applying it to the pedicle, held between clamps. After the application, the pedicle is allowed to remain five minutes undisturbed, and the clamp is then carefully removed. There is no fear of hæmorrhage after this procedure.

Dr. S. C. Gordon, of Portland. I have seen but three cases of ventral hernia in eighty operations. These were due, I think, to the use of silver wire in closing the abdominal wound. It is difficult to twist silver wire so as not to strangulate the tissues. If the part is strangulated, absorption is likely to occur. I now always use silk and include the transversalis fascia and linea alba. In hysterectomy I have treated the pedicle in an intra-peritoneal way and 90 per cent. of the cases have recovered.

In regard to cases of so-called normal ovariotomy, I have seen cases cured by operation in which all other measures had failed. I have done Tait's operation in thirty-three cases with three deaths. Twenty-five of these patients consider themselves well. Four or five have not been benefited.

Dr. Coudin, of Rock Island, Ill. Dr. Senn states that overdistension of the bowel causes longitudinal rupture of the peritoneum. Some years ago I suffered intussusception in my own person, the invaginated portion reaching almost to the anus. After other measures had been resorted to, I injected the bowel through a long, rubber tube. There was a sudden report, the bowel returned to its position, and the water entered. In my case the injection evidently passed through the ileo-cæcal valve.

Dr. Kreicher, of Springfield, Ill. I would add to the cases of Dr. Parkes, a successful case of laparotomy for gun-shot wound of the intestine in the practice of Dr. David Prince, of Jacksonville. I have seen four cases of intestinal obstruction. The first was a case of acute obstruction. I saw the case one week after the onset of the symptoms, and proceeded to the operation. The intestine was in such a condition that the operation was abandoned and the patient died. In the second case, there was in connection with the obstruction extensive miliary tuberculosis of the peritoneum, and it was impossible to proceed with the operation. The third case was one of strangulated hernia, although there was no external evidence of the condition. The patient died eighteen hours after operation. The fourth case was one of one week's duration. Operation was recommended but not accepted. It is my opinion that cases of intestinal obstruction which do not yield to ordinary medication, injections and massage, should be submitted to exploratory incision, and the operation should not be delayed.

Dr. Satterthwaite, of Louisville, Ky. The first thing to determine is whether or not the abdominal cavity has been opened. This can only be done by careful exploration. There may be a valvular

opening which will not permit a probe to pass. If penetration is determined, the wound should be enlarged and the opening in the intestine closed by sutures, including only the peritoneal and muscular layers. If you wait for shock and the passage of fæces the case will usually die.

DR. LINK, of Terre Haute. Gun-shot wounds of the intestine, even if not operated on, are not necessarily fatal. The presence of food in the peritoneal cavity is not of necessity fatal. I believe that many cases of pistol-shot wounds of the abdomen with perforation of the intestine, recover without operation. A probe should not be introduced into the opening until we are ready to proceed with the operation.

DR. PALMER, of Jonesville, Wis. In reference to the passage of fluids injected into the bowel through the ileo-cæcal valve, I would say that I have performed a number of experiments on dogs, producing invagination artificially. Rectal injections were then resorted to with the effect of relieving the invagination in the majority of cases. The same procedure has been resorted to in the human subject with satisfactory results in two cases. If we can relieve intussusception by fluid or gaseous injections we do away with the need for the knife, and if they fail, the knife can be used afterwards.

DR. A. C. BURNEYS, of St. Louis. In connection with Dr. Senn's recommendation of intestinal anastomosis I would mention a suggestion which I made in 1883. In order to form a communication, say between the stomach and intestines, an elastic ligature may be passed into the stomach and brought out a short distance from the point of entrance. The needle with the ligature is then passed into the bowel, brought out, and the ends tied together. Adhesion takes place and the ligature cuts through in twenty-four to thirty-six hours. This will do where you can wait, but when a communication has to be established at once, Dr. Senn's operation is eminently useful.

DR. GILMAN, of Lowell. I have treated three cases of pistol-shot wound of the abdomen without operation. In the first case there was a wound of the intestine with death from peritonitis. The second case had a wound of the stomach and recovered without a bad symptom. The third case resulted fatally from peritonitis.

DR. T. G. RICHARDSON, of New Orleans. I recently saw a case in which there was undoubted wound of the intestine, and the patient recovered without operation. The records of the Charity Hospital show that more than one-half of the cases of penetrating abdominal wounds in negroes, recover, while more than one-half of the cases in the white race die.

DR. RIDGE, of Kansas City. I have seen several knife wounds penetrating the stomach in which recovery followed without operation, and I think that I have seen as much damage from the operation as from waiting.

DR. DAWSON, of Cincinnati. I have made several experiments on the cadaver with reference to the possibility of passing fluids from below through the ileo-cæcal valve. In twelve cases, I found it impossible to pass fluid through. In one case fluid appeared in the mouth. Examination showed the valve to be imperfect. In the normal condition it will not allow fluid to pass.

DR. PARKES, of Chicago. The results of my experiments on animals shows the necessity of bringing large surfaces of peritoneum in contact. With regard to Dr. Senn's suggestion for the treatment of multiple wounds of the intestine, I think that it is not necessary, for the plan of treatment by the continuous suture is sufficiently rapid and answers the purpose.

THREE CASES OF LAPARO-NEPHROTOMY,

by DONALD MACLAIN, of Detroit.

CASE I. Mrs. A., aged twenty-five years, presented herself with what had been diagnosed as an ovarian tumor. There was a cystic abdominal tumor about the size of the uterus at the seventh or eighth month of pregnancy. There was no history of renal trouble and no evidence that the tumor was connected with the kidney. The patient insisted that it had begun to grow from below. The operation was done with the expectation of removing an ovarian tumor. The left ovary was found enlarged to the size of a goose-egg, and was removed. The large tumor was found to arise from the kidney and it was removed. The patient did well for a time, but suppuration with the formation of a fæcal fistula occurred, but the patient finally made a perfect recovery.

CASE II. Mrs. T., aged forty years, presented herself, with a tumor of the left side of the abdomen, which had been discovered six years previously. The enlargement had gradually increased. The tumor, when first seen, was too high for the ovary and too low for the spleen. The urine was normal. A diagnosis of tumor of the left kidney was made. It was decided to adopt the trans-peritoneal method of operating. A large cyst of the kidney was found. During removal it ruptured, with the escape of a material like soft soap. The posterior layer of the peritoneum was brought together with sutures. The case did well until the eleventh day when the temperature went up until it reached 104°. Examination showed fluctuation in the lumbar region. An opening was made with the escape of a large quantity of pus. Symptoms of collapse followed this operation, but these were overcome and the patient made a gradual recovery.

CASE III. A female infant, twenty-two months old. The family history was good. There was a tumor in the right hypochondriac region. This was movable and free from tenderness and pain. Tumor of the kidney was diagnosed and removal recommended. The incision was made just external to the rectus muscle. No difficulty was experienced and the operation was completed in seven minutes. The posterior layer of the peritoneum was closed with catgut sutures. For several days the case progressed favorably but the temperature remained high. On the fifth day a careful examination was made to determine the cause of the elevated temperature. During the examination the child coughed and the abdominal incision gave way, allowing the intestines to escape. These were replaced and a search failed to show the source of the trouble. The wound was reunited. The temperature continued high and the child died on the ninth day. At the autopsy the posterior layer of peritoneum was found united and in the space occupied by the tumor a small collection of pus was found surrounding the ligature on the pedicle of the tumor.

The speaker said that while the lumbar operation might be the safer, there were cases in which the trans-peritoneal operation was preferable. These cases point to the necessity of securing efficient drainage, although antiseptic precautions were adopted.

TUMOR OF THE HEAD, PROBABLY INTRA-CRANIAL.

A patient with a tumor of the head was presented to the Section and was referred to a committee for examination. The committee consisted of Drs. Moore, Dawson, and Brosseau. It reported that there was a large tumor of the head, five inches in diameter, occupying the tempero-parietal region. This occurred in a man thirty-five years of age, and appeared twenty months ago. There was some headache. There was some blindness, greater on the right side. There was deafness on the left side. The tumor was raised one inch above the surface. The committee believed that the growth was intra-cranial, causing expansion and partial absorption of the bones. While operation would hardly be successful, still, as the case must progress to a fatal termination, it would be proper to remove a portion of the skull, and if the growth was outside of the dura mater, there would be a reasonable prospect of success.

The Section then adjourned.

THIRD DAY, WEDNESDAY, SEPTEMBER 7th.

LAPARO-NEPHRECTOMY.

The meeting being called to order at eleven A.M., the discussion of Dr. Maclain's paper on Laparo-nephrotomy was taken up. The discussion was opened by Dr. Herff, of San Antonio, Texas, who said:

I quite agree with Dr. Maclain that in suitable cases laparo-nephrotomy is the proper operation. Some years ago I had a case of a young woman who was newly married, and when about two months pregnant she discovered a tumor on the right side, which was nearly as large as a child's head. She had no pain and except that she had this tumor, she was in good health. The tumor, however, annoyed her very much, and she insisted on an operation being done. I therefore opened the abdomen in the median line and removed the tumor.

The remarkable thing about the case was that the tumor, which I had thought an ovarian one, proved to be the kidney and supra-renal capsule. From the lower end of the tumor the lower part of the kidney was hanging, while the upper part consisted of the supra-renal capsule enormously enlarged and sections of which presented under the microscope the appearance of the long cells of myoma.

The patient made a good recovery, and two years after the performance of the operation, she was in perfect health.

This, while a case of removal of the kidney, was also a removal of the supra-renal capsule. This made the case more remarkable to me because I have never read of its removal for disease.

Dr. Dawson said, About these cases I wished only to thank Dr. Maclain for his kindness in bringing them before the Section. It is very interesting to look back a few years and see the advance in surgery that has taken place.

Dr. Hughes said, I had precisely the same number of cases of kidney disease as Dr. Maclain, and I perfectly agree with him in everything save one, and that is the seat of operation. He seems to prefer the abdominal incision, while in all cases where it is practicable I would give the preference to the side, between the rib and crest of the ileum. My first case I operated on by means of the abdominal incision the only way that I could do, as the tumor was so large a one that it could not have been brought through the opening between the ribs and the crest of the ileum. The second case was only a tumor about the size of the fist, and I operated in the space between the ribs and anterior crest of the ileum. I also operated on the third case by incising the lumbar region, and from these last cases I got the best results and also avoided opening the peritoneum.

Dr. Edward Owen, of London, remarked: There are at least three factors which must influence the choice of the operation in each case; first, if there were doubts as to the exact nature of the tumor, the anterior operation would be chosen, and second, if the tumor were very large, the anterior incision must be chosen. Lastly, there was the line of practice of the individual surgeon. The gynæcological operator would naturally prefer the trans-peritoneal incision, even for a small tumor, because that is, to a certain extent, his own province, while the general surgeon would choose the space between the last rib and the iliac crest, because, for some reasons rather indefined, he does not care to touch the peritoneum if he can avoid it. In a case of diseased kidney which I removed successfully, I made the incision through the luna semilunaris.

Dr. Harden remarked: I had a case somewhat similar to one which has been related here. In my case, I made the anterior section, but did not remove the tumor, on account of an enormous flow of blood, which would have become so alarming if we had attempted to separate the tumor from its connections, that I feared the patient would die, so all further operation was stopped. The tumor was shown after the death of the patient to be a kind of fibro-cystic tumor of the kidney.

Dr. Lange, of New York, said: In a large number of these cases of tumor of the kidney where there is fluctuation, they are cases of pyo-nephrosis of usually very large size. I have operated several times for the removal of the kidney, and performed both the anterior and posterior operations. In the small tumors, and in some of the larger ones, I prefer to make a small lumbar incision to empty the contents of the tumor out as far as possible, and then wait until the remainder of the tumor lessens in size, which it will be very apt to do, so that it can be gotten out through even a very small hole or incision.

Sometimes, in renal calculi, I have performed laparotomy, or rather, the operation in the lumbar region, and then, after making this incision by placing these patients in bed, lying on their stomachs on a pillow, the kidney would float up when the wound was made, and could easily be gotten up, and the calculus removed.

Dr. Maclain, in closing the discussion, said: I have been misunderstood in the discussion because I choose the operations in the front of the belly, instead of the lumbar incision. There were very good reasons in each of the cases I have had why I should choose the anterior operation; they were all too large for the lumbar incision.

Dr. M. H. Richardson, of Boston, next read a paper entitled

GASTROTOMY FOR FOREIGN BODIES IN THE ŒSOPHAGUS,

in which he said that this operation was intended only for the removal of foreign bodies in the œsopha-

which had passed so far down the œsophagus as to be lodged near the cardiac orifice. In regard to the length of the incision, it was not fixed. It might be only a very short one, or it might be made large enough to put the hand inside the stomach, so as to reach up into the œsophagus, if that should be necessary in order to extract the foreign body. The incision through the skin should be made over the cardiac end of the stomach, or might be made in the median line, and the incision through the walls of the stomach must be made in the cardiac end of the stomach. All the caution necessary in making this was to get the incision made without wounding the convexity of the lesser curvature of the stomach, and, in order to avoid this, the better way was to put the lesser curvature on the stretch. After the opening into the stomach was made, instruments might be introduced for the dislodgement of the foreign body, or, if they were insufficient, the fingers and hand might be passed in, which would enable one to relieve the œsophagus of its burden. As to the scope of the operation, while it was chiefly applicable to the removal of foreign bodies, it might be useful in other ways, as its capabilities were considerable, as was demonstrated by his experiments on the cadaver. He concluded that if the foreign body was lodged within six inches of the lower edge of the cricoid cartilage, it was best removed by an operation from the side or above, but if situated more than six inches from the cricoid cartilage, gastrotomy was the best thing to be done. He then exhibited a patient from whom he had removed a plate of false teeth by means of gastrotomy.

DR. F. S. DENNIS, of New York City, then read a paper, the title of which was:

REPORT OF AN AMPUTATION AT THE HIP-JOINT FOR THE REMOVAL OF A MALIGNANT GROWTH, SARCOMA,

in which he said that it was only by collecting the cases which occur from time to time, and comparing them, that we are able to advance our knowledge. This case was that of a young man, aged seventeen years, who had no bad family history, and who had always been in good health until about five months prior to his admission in the hospital. At the time of his admission, his weight was eighty-five pounds. Five months prior to his admission, he had first noticed a dull pain in the thigh, and shortly afterwards, he discovered a swelling in the thigh. He had had no fall or blow.

About two months after the first appearance of the pain the tumor was aspirated, and about ten ounces of bloody fluid drawn off. The swelling was fusiform in shape, the skin was purple, and large veins were to be seen on the surface of the tumor while the glands of the thigh and groin were much enlarged. The diagnosis was that it was a sarcoma of the femur, and amputation at the hip-joint suggested, as the only means of saving life. This amputation was done, and the wound dressed antiseptically. The wound was entirely healed by the sixth or eighth day after the operation. After the patient left the hospital the wound reopened a little, and discharged pus mixed with blood. This was found to be due to sloughing of the ligament sutures, upon the removal of which the wound healed kindly, and the young man is now well.

DR. GASPER W. GARMANY then read a paper on the SURGICAL TREATMENT OF EPILEPSY BY TREPHINING,

in which he related the case of a girl about eighteen years of age, struck on the head with a brick falling from a house-top, and causing fracture of the skull. The skull was trephined, and the splinters of bone removed, but some time after the wound had healed she began to have attacks of epilepsy, for which ordinary treatment was unavailing, and the reader finally operated on her, with an entirely successful result. As a result of his researches on the subject, the reader had found that lesions in the frontal and parietal regions are followed, usually, by the same symptoms, and that over fifty per cent. of the lesions in these regions are followed by epilepsy, which, later on, is complicated by insanity. Trephining at the site of the lesion, and removing the cicatrix, is usually followed by complete relief.

The Section then adjourned until 3 P. M.

(To be continued.)

— The returns of the Boston Board of Health show a greater prevalence of typhoid fever during the month of August of the present year than for a series of years past. The following table illustrates the comparative statistics on this point for the month of August in seven consecutive years:

Year.	Cases.	Deaths.
1881	..	18
1882	60	14
1883	135	20
1884	115	25
1885	111	14
1886	136	18
1887	169	23

— That "heart-burnings" should not be a more frequent result than they are of great medical congresses and conventions, is rather a matter of surprise when men who have laboriously built up a wide professional reputation, see their fame scattered to the winds by the typographical vagaries of the "enterprising" medical journalists, with whom celerity of report outweighs accuracy. For instance, Dr. John Homans, the eminent ovariotomist of Boston, appears in the columns of the *Medical Register* (daily), as Dr. John Thomas. In the report of the discussion the only approximation to an elucidation of the personality of this reader is afforded by the remarks of a speaker on the paper of Dr. "Horman."

— Dr. Morell Mackenzie, of London, who had the happiness to achieve so brilliant a success in the treatment of the throat of the Crown Prince of Germany, a success which showed to especial advantage in the focus of public attention incident to the exalted station of his patient, is beginning to reap his reward. He has received the honor of knighthood, and will doubtless receive what may or may not be considered of more value, the sum of $12,500, the amount of his bill for services rendered. The Crown Prince has been spending some time in the Highlands of Scotland, and reports by letter to Prof. Virchow continued improvement in the condition of his throat, while the laryngological examinations show no recurrence of the growth and a decrease in the local congestion.

— Professor Alonzo Clark, M.D., LL.D., died at his home in New York, Tuesday, September 13th. Dr. Clark has been aphasic for some years.

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THE MEETING OF THE INTERNATIONAL CONGRESS AT WASHINGTON.

THE Ninth International Medical Congress being a thing of the past, the reports being all in, and a sufficient time having elapsed since the adjournment for sifting and comparing the observations and conclusions of various reporters and participants, we may venture to draw some more definite conclusions as to the characteristics, the success, and the results of this meeting. Before drawing any such conclusions, we would say that — not having been in sympathy with the impulses of, and the course pursued by, the majority who dominated the American Medical Association at New Orleans, and anticipating, since then, the unfortunate results which could not fail to follow the action taken there, and that subsequently by the enlarged Executive Committee at Chicago and elsewhere — it was our earnest desire not to pre-judge events, and to interpret reports, not merely in a fair, but in as favorable a light as possible, as will be evident from our last week's issue.

The question whether the Ninth International Medical Congress was a success and a credit to those who assumed its management is not, after all, one of "patriotism" or malevolence, any more than the question of official representation should have been made one of square miles of territory, but is simply a question of fact, and, though a question of fact, may be answered somewhat differently, according to the standard of success and credit. As registration could be made by letter, as well as personally, the number of delegates actually present and participating in the proceedings of the Congress can only be estimated. The registration was officially reported as 2,700, and the actual attendance may be liberally estimated at between 2,300 and 2,500, certainly a sufficiently large number to stamp the Congress as a moderate success, at least, from the mere point of view of size. When, however, the enormous domestic medical population is considered, and how slight an impediment a railway journey is to an American who wants to do something, the success from this point of view is hardly more than moderate.

The number of foreigners actually present was really small, possibly 150: and of the long list of vice-presidents read, only one responded to the invitation to come forward and take a seat upon the platform. The distribution of members from the different parts of our own country was very unequal, as was anticipated, the West and Southwest being most largely represented. There were, unquestionably, distinguished Americans and foreigners present at and participating in the Congress, but it is undeniable that distinguished names were conspicuous by their absence, rather than by their presence.

Of the actual value of contributions and discussions it is still early to judge absolutely. In regard to the papers contributed we are inclined to think that the same remark may be made as we have already made about the attendance. There was much disappointment about the papers promised to the General Section — papers usually among the most important — and the Section on General Medicine fell below the standard which should easily have been reached. The Surgical and the Gynæcological Sections were the most active, the latter profiting by an attendance partially attracted by the approaching meeting of the American Gynæcological Society, and also by papers which should have gone to the Obstetrical Section. The officers, and especially the Secretaries, of these Sections deserve credit for great industry. The discussions, some Sections being excepted, were either wanting altogether or very meagre.

The best that could be done under the circumstances probably was done to provide for social courtesies and entertainments; the provision, however, was disappointing and arrangements, on at least two occasions, were insufficient to accomplish the necessary ends or altogether neglected, and on this point we must, upon further information, recall the expression used in our editorial column last week.

Want of money was the cause of the inefficient and insufficient arrangements for social entertainment. The raising of the necessary funds was one of the responsibilities, and one of the most important, which the Executive Committee assumed in assuming its functions and taking control of the preparations. The main reliance seems to have been placed upon securing what might be needed from the public treasury. Secretary Bayard, however, explained in his address, that Americans are not in the habit of looking to Government for the support of educational and scientific interests. Whatever idea the foreign visitors may carry away of other American "institutions" their association with our bands of music and our claret punch, will not be flattering, for if any of them were cheerful — as reported by an esteemed contemporary — at the Pension Hall *conversazione*, it was in spite of these accessories. The season of the year amply accounted for any deficiency in private hospitality.

Much hard work was done by the Secretary-Gen-

eral of the Congress, and by members of the Executive Committee, otherwise the measure of success obtained, could not have been achieved. This was not sufficient to make the ninth Congress the largest, the most interesting, or in any one respect the most useful and important ever held, and it is useless to characterize it as such. A truly polite and amiable foreign delegate might permit himself to speak of it as a *succès d'estime*, but scarcely with more enthusiasm.

The JOURNAL has furnished special reports of the General Sessions, of the Section of General Medicine and Section of General Surgery. No attempt has been made to publish the proceedings of the other Sections. An incomplete report would have no value, and a complete report, if valuable, would attain a bulk inconsistent with a weekly publication. Having looked over the reports of our enterprising contemporaries, we are not disposed to repent our concentration. Such of our readers as find their desires whetted for more, after reading the reports furnished by the JOURNAL, and who are too impatient to await the official volumes, are referred to the daily edition of the *Medical Register*, and to the *New York Record* and *Medical News* of Philadelphia. *Jam satis est!*

Miscellany.

WHAT PROMINENT MEN SAY OF THE CONGRESS.

DR. N. S. DAVIS said to a representative of *The Medical News*, on Thursday evening, in reply to the inquiry whether he thought the Congress had been a success, that in point of numbers it stood second, if not first.

"But as to its character and the scientific value of its work?"

"Well, I have seen all the presidents of Sections to-day, and they each and every one of them report most favorably."

"From your experience of previous Congresses, do you not think there was a conspicuous absence of distinguished foreigners — such men, for instance, as Paget and Gull, and Pasteur and Verneuil, and Virchow and Lister, and others whose names are known all over the world?"

"Yes, that is so; but then you must remember that many of those you name are over seventy years of age, and at their time of life, with their professional duties, a journey across the Atlantic, and such a prolonged absence as is thereby implied, is a very serious matter. Sir James Paget himself told me he feared he would be unable to attend on account of his advancing years. Professor Virchow wrote me that he could not come because of an important conference to be held in Berlin this month, of which he is Chairman of the Committee of Arrangements. I do not remember exactly what that conference was, but it was something combining hygiene with some other subject."

"But what about Neudörfer and Lutaud, of Paris, who were to have been here and to have taken part in the proceedings?"

"Neudörfer is detained by sickness; and Lutaud — well, I can't say anything about him."

"Then, on the whole, do you think the delegates compare favorably with those of other Congresses?"

"Yes, I think so. They are younger men, true, but I understand some very valuable papers have been contributed even by those who did not come. M. Simon, for instance, a very eminent man I am told, has forwarded a most important paper. And you must remember we have had difficulties with regard to the foreign delegates."

"What were those?"

"I do not care to go into them, but, gentlemen — you could count them on the fingers of your two hands — have written and begged foreign delegates not to come. They said there were factional differences. They even went so far as to say that Washington was unhealthy; that the weather was very hot, and that typhoid fever was prevailing. Of course, this kept some away."

"How do you think the American reputation for hospitality has been maintained?"

"That I would rather say nothing about. I have heard many complaints from the foreign delegates that they were not able to get into the White House to see the President and Mrs. Cleveland last night — many such complaints. It was unfortunate, very. I am very sorry it occurred."

"Is there any prospect, do you think, that the Congress will ever meet in the United States again?"

"Not for twenty years, at least. These sessions are only triennial, and it is not likely that Washington's turn will come round again for twenty years, if then."

SECRETARY-GENERAL JOHN B. HAMILTON was asked how many delegates had registered.

"Over twenty-six hundred."

"How many foreigners?"

"Three hundred, it is estimated, but I have not the local registration-book at hand."

"Have you been cramped for want of money?"

"Yes."

"If the dissension beginning at New Orleans had not taken place, do you think there would have been a larger contingent of foreign delegates?"

"If there had been no system of general misrepresentation practised by many of those who resigned, and followed up by personal solicitation to stay away, the attendance might have been larger; as it is, the attendance from Transatlantic countries is larger than it was at former Congresses."

"Do you know of any dissatisfaction having been expressed by foreign delegates as to their treatment here?"

"No, on the contrary, see Sir James Grant's speech to-day, on this point."

"What do you think of the scientific aspects of the Congress?"

"They are entirely satisfactory, and will take rank with any former Congress. I can only view with contempt the statements made with evident intent to disgrace America, and belittle our guests."

"What about the absence of those American physicians who withdrew from the Congress and remain away."

"While their absence is to be regretted, yet the facts show the Congress is entirely successful without them."

DR. UNNA, of Hamburg, being asked "What opinion he had formed of the Congress?" replied:

"I do not think it is of as high a character as those of Copenhagen and London. The discord at home has prevented many foreigners from coming. This discord was so promptly heralded abroad, that it became in a measure international. If it had not occurred many Germans would have come, not thirty or fifty, but two hundred. This number would have included the most prominent men of the country. I regret that the leading physicians of America did not overlook the discords when it was too late to reconsider action, and so give to the Congress more of the air of being international. Men like Agnew, Loomis, and others, are much missed. My strongest impulse in accepting the vice-presidency, and reading a paper, was to prevent the Congress from dwindling into simply a national affair. I regret that others did not take the same view. The scientific aspect, although not equal to former Congresses, is better than was to be expected under the circumstances. Papers in the Dermatological Section were good for the most part, but the discussions were poor; but such is the case at all Congresses. Socially I have not had much personally to complain of, although I am aware of many deficiencies. I know that many errors have been committed. The arrangements have been poorly announced. On the whole, there is much to be regretted."

Dr. W. T. Lusk, of New York, was asked what opinion he had formed of the Congress.

He replied: "I have heard some complaints from foreign delegates regarding a want of courtesy on the part of the officers of the Congress. It seems there has been some want of business management, and perhaps a lack of experience on the part of the officials in managing such affairs. They have been too much disposed to regard the foreigners as they would our own people, who are always willing to look after themselves, while a European seems to require some one to take care of him."

"What do you think of the scientific value of the Congress?"

"I believe the volumes of Transactions, when published, will be equal, in respect of the papers contained therein, to those of any preceding Congress."

"If the unfortunate dissension which began at New Orleans had not occurred, would not the success of the Congress have been more marked?"

"Well, I must say, the presence of prominent members of the profession at the discussions was greatly missed."

Dr. Lusk, who was somewhat unwilling to give his views for publication, also stated that he thought that in the division of papers between the Sections of Obstetrics and Gynæcology, the former had been unfairly treated by being deprived of several papers properly belonging to it.

Dr. Mariano Semmola, Professor of Therapeutics in the University of Naples, Italy, was asked his opinion of the present Congress, and replied to the queries addressed to him as follows:

"You have attended other Congresses?"

"Yes; indeed, I think I have attended every one."

"What opinion have you formed of the scientific value of the Congress?"

"It is considerably below the average of any of its predecessors."

"Do you think that if the unfortunate dissensions at New Orleans had not taken place, that a larger number of distinguished men from Europe would have attended this Congress — such men as Porro, from your own country, and Pasteur, Virchow, Esmarch, Paget, MacCormac, etc.?"

"I have met many, if not all those gentlemen at preceding Congresses, and have no doubt at all that if there had been no quarrel among the profession here, some, if not all of them, would have crossed the Atlantic."

"How did you happen to come yourself?"

"I was assured that the quarrel was a matter that had entirely passed over, and so I came on."

"Have you met many of the Americans whom you expected to see?"

"Very few, indeed, and it is a matter of sincere regret to me."

"How have the social aspects of the Congress appeared to you?"

Dr. Semmola smiled at the question, shrugged his shoulders and said: "Well, I have had one or two private invitations, but as for the rest — it does not exist."

"You are not favorably impressed then?"

"No; how can I be?"

Correspondence.

[From our Special Correspondent.]

LETTER FROM WASHINGTON.[1]

Notes and Gossip about the International Medical Congress.

Washington, Saturday Evening, Sept. 10, 1887.

On Friday evening Secretary Whitney, of the Naval Department, gave a reception to the foreign members of the Congress at Grasslands. It is understood that the host himself was absent. He was represented by an officer of the navy, and lunch was served to the visitors, but the foreigners are understood to wonder if American hosts usually consider their duties end with the issuance of the invitations.

It is said that 2400 bottles of champagne were consumed at the Pension Hall banquet of Thursday.

It is a little noteworthy that Secretary Bayard, who made the address of welcome at the opening of the Congress, is understood to be the most pronounced homœopath at Washington.

A reasonable verdict as to the Congress seems to be that it was, considering the circumstances, fairly successful, and no more. The gentlemen who came from abroad had a right to expect to come to a representative American gathering; and this they failed to find. Sectional as regards residence, scant in men of recognized professional eminence, the American contingent of the Congress was a body of very worthy family doctors. The whole registration, by the Secretary-General's count, was 2,700, which means an actual attendance of between 2,000 and 2,500. The number of foreign members was not far from 150; and of these there were but few of wide fame. As to the papers presented, quantity, not quality, seems to have been the rule. Instead of the two papers a day before the general session, which should have been the marked features of the Congress, lack of material reduced them to one daily, and of these, one, in the author's own words, was written merely to be read before a Section. The address of the President of the Congress fell heavily upon the listening ear. There were, doubtless, among the sectional papers, some that were worthy of preservation. Time alone will sift the big wad of documents, which ambitious young men of inexperience combined with respectable practitioners to accumulate; but it is believed that the world would weep at the loss of few of them. There inheres, of necessity, in every gathering of the sort, a wonderful power of attraction for cranks and wind-beaters; and there was no lack of these among the authors of papers or among those who discussed them. In certain sections, like that on gynæcology, for example, where were present eminent men from abroad (attracted it may be, by the meeting the succeeding week of the American Gynæcological Society, to which they had been specially invited) discussion meant more than mere words. But this could not be said in all cases.

As a means for the advancement of science, the success of the Congress was questionable.

So far as the local arrangements were concerned, the job appeared to be too big for the Committee in certain directions; at least the Chairman of the Committee expressed publicly his dissatisfaction with his own arrangements in as strong terms as did any mere member of the Congress.

The charm of the weather, the beauty of the city, the courtesy shown the Congress by the Chief Executive of the country, all favored the gathering. What it might have been under proper auspices can but be imagined.

[1] Concluded from page 243.

"SHORT CUTS" TO DIPLOMAS.

Boston, 130 Dartmouth Street,
September 5, 1887.

Mr. Editor,— In justice to Professor Sewall's indignation (September 1st), to "Reader" (August 11th), and to the University of Michigan, let us notice that "the same college" in "Reader's" letter, does not mean the University of Michigan, but as it reads, it does mean in all probability the one mentioned in the original letter to the *New York Medical Record*, "The University of ——— situated among the hills of New England." If any reader will take time to look up that first letter he can easily establish the connection of the later ones and also recognize the college referred to.

By the way, I know a case in point: a student in the University of Michigan was "plucked" in February, immediately left for New York and returned with his diploma in April, to laugh at his class that had to "grind" until June.

Very truly yours,
C. P. Pengra, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 3, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	693	340	29.25	13.80	20.25	1.20	3.90
Philadelphia	993,801	395	185	16.56	9.66	7.13	3.91	2.99
Brooklyn	745,108	362	187	29.12	8.96	19.60	1.40	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	192	89	16.12	15.08	11.96	2.60	—
Boston	400,000	206	78	26.46	19.11	14.21	5.88	1.47
New Orleans	242,750	108	30	13.80	11.04	—	.92	5.52
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	83	36	26.62	9.68	14.52	6.05	2.42
Pittsburgh	210,000	96	44	34.32	11.44	10.40	9.36	6.24
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	14	4	35.70	7.14	14.28	14.28	—
Charleston	60,145	38	17	21.04	10.52	18.41	—	—
Portland	40,000	11	3	27.27	27.27	18.18	9.09	—
Worcester	68,383	29	13	34.48	14.80	22.15	6.90	3.45
Lowell	64,051	31	16	67.83	9.65	41.99	6.15	6.46
Cambridge	59,660	28	16	32.13	7.14	21.42	3.57	7.14
Fall River	56,863	35	23	45.76	2.86	37.18	5.72	—
Lynn	45,861	20	12	35.00	5.00	30.00	5.00	—
Lawrence	38,825	8	3	25.00	—	—	—	12.50
Springfield	37,577	11	6	54.54	9.09	27.27	27.27	—
New Bedford	33,393	21	10	42.84	4.76	14.28	4.76	23.80
Somerville	29,992	13	4	30.76	15.38	15.38	7.69	—
Salem	28,084	12	3	16.66	—	16.66	—	—
Holyoke	27,894	16	13	50.00	—	37.50	—	—
Chelsea	25,709	5	1	20.00	20.00	20.00	—	—
Taunton	23,674	4	—	—	—	—	—	—
Haverhill	21,795	9	6	44.44	—	44.44	—	—
Gloucester	21,744	3	2	66.66	33.33	66.66	—	—
Brockton	20,783	7	3	14.28	28.56	—	14.28	—
Newton	19,759	5	4	20.00	—	—	—	20.00
Malden	16,407	5	—	—	40.00	—	—	—
Fitchburg	15,375	6	4	33.33	—	33.33	—	—
Waltham	14,609	4	0	25.00	—	—	25.00	—
Newburyport	13,716	7	1	14.28	14.28	14.28	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,477: under five years of age 1,153; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 648, consumption 299, lung diseases 158, diarrhœal diseases 392, diphtheria and croup 88, typhoid fever 80, malarial fevers 35, whooping-cough 22, scarlet fever 17, cerebro-spinal meningitis seven, measles four, puerperal fever three, small-pox (New York) two. From malarial fevers, New York 11, Brooklyn and New Orleans eight each, Philadelphia and Baltimore two each, Boston and Charleston one each. From whooping-cough, Philadelphia eight, New York and Boston five each, Pittsburgh two, Brooklyn and Lawrence one each. From scarlet fever, New York, Boston, and Pittsburgh, three each, Brooklyn two, Philadelphia, Baltimore, District of Columbia, Nashville, Lowell and Holyoke one each. From cerebro-spinal meningitis, New York three, Boston, District of Columbia, Fall River and Holyoke one each. From measles, New York two, Brooklyn and Pittsburgh one each. From puerperal fever, District of Columbia, Pittsburgh and Somerville one each.

In the 21 cities and greater towns of Massachusetts, with an estimated population of 1,017,117 (population of the State 1,941,465) the total death-rate for the week was 22.78 against 21.60 and 27.05 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending August 20th, the death-rate was 23.3. Deaths reported 4,128: infants under one year of age 1,755; acute diseases of the respiratory organs (London) 178; diarrhœa 878, whooping-cough 100, measles 87, scarlet fever 61, fever 35, small-pox (Sheffield) four.

The death-rates ranged from 15.0 in Derby to 33.5 in Manchester; Birmingham 24.5; Blackburn 30.8; Hull 27.6; Leeds 21.5; Leicester 18.2; Liverpool 26.7; London 21.2; Nottingham 20.9; Sheffield 21.8.

In Edinburgh 16.9; Glasgow 19.5; Dublin 35.5.

The meteorological record for the week ending September 3, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Sept. 3, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, 28	30.00	61.0	69.0	54.0	71.0	56.0	64.0	64.0	N.W.	S.E.	S.W.	8	6	5	C.	C.	C.		
Monday, 29	30.10	62.0	70.0	55.0	65.0	61.0	69.0	65.0	N.	S.E.	S.W.	10	7	5	C.	F.	F.		
Tuesday, 30	30.22	60.0	65.0	53.0	88.0	77.0	89.0	85.0	N.W.	S.E.	E.	6	12	5	O.	F.	C.		
Wednes., 31	30.30	57.0	65.0	52.0	97.0	76.0	86.0	86.0	N.E.	E.	N.E.	6	12	4	G.	C.	C.		
Thursday, 1	30.17	60.0	69.0	50.0	82.0	58.0	81.0	74.0	N.W.	S.E.	S.W.	5	5	8	C.	C.	C.		
Friday, ... 2	29.88	65.0	73.0	52.0	84.0	70.0	85.0	80.0	S.W.	S.W.	S.W.	12	14	12	C.	O.	O.		
Saturday, 3	29.94	63.0	70.0	58.0	79.0	58.0	72.0	70.0	N.W.	N.W.	N.W.	16	24	12	C.	F.	O.		
Mean, the Week.																		2	*T

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

Original Articles.

CONDITIONS FAVORABLE TO OUT-OF-DOOR LIFE IN COLORADO.

BY SAMUEL A. FISK, A.M., M.D., DENVER, COL.,
Professor of Diseases of the Nervous System, University of Denver, Col.; Member of the American Climatological Association; etc.

Of all the methods that have arisen, of late years, to aid in the arrest, or cure, of Pulmonary Consumption, there has not yet been found one to take the place of change of climate. Even the most ardent advocates of gaseous enemata, of deep inhalations, or of deep injections do not claim for their methods superiority to the climatic treatment, but the most they can urge is that they may be valuable adjuvants, or, at least, that they can be profitably employed, when through financial, or other reasons, a change of climate is impossible. Assuming, then, that the climate is the best treatment known in the arrest, or cure of consumption, or in prophylaxis, the question arises as to which is the best climate. This is a much debated point, and the weight of evidence is often, in the mind of the reader or listener, based upon the esteem in which the one giving utterance to the opinion is held. There are those who contend for a sea air, and others for a mountain air. "Many people," says Dr. Hermann Weber, "still cling to the idea that cold is injurious and warmth curative in phthisis, but this idea is quite incorrect. Another idea, that equable climates are the best in the treatment of phthisis, should likewise be much restricted."

However various the opinions, on two points there is, practically, unanimity: —

(1) That the air should be pure, aseptic, free from germs.

(2) That it should conduce to life out-of-doors.

The former condition, that of an aseptic atmosphere, has been shown by Professor Tyndall, Miguel and others, to belong to elevations of 6,000 feet and over; such an elevation as is to be found along the slopes of the Rocky Mountains, in Colorado, Wyoming and New Mexico.

The conditions that conduce to out-of-door life are those that render life in the open-air not simply tolerable but attractive, so as not only to make the invalid feel that he *ought* to be out-of-doors, but that he *wants* to be. How far these conditions are fulfilled by a life in Colorado, it is my purpose to show.

An important element, perhaps the most important, in making life out-of-doors attractive is that the sun should be shining. Clouds depress, sunshine exhilarates, and between two climates equally good in other respects — if indeed such a thing can be imagined — that one in which the sun shines the most hours in a day and the most days in a year, should be selected for the mental effect — if for none other.

I wish to speak now of sunshine, disregarding, for the present, its effects upon temperature, dryness, (atmospheric and soil), the processes of growth and blood formation, etc. Some years ago[1] I pointed out by the following table that, of the twelve places included in the list, selected with reference to their geographical location, and taking a mean of five years, there were fewer cloudy days in the eastern slopes of the Rocky Mountains than in any other portion of our country.

[1] Science, October 5, 1883.

Cloudy Days. Mean for Five Years.

Augusta, Ga.	92	Chicago,	107
Jacksonville,	87	St. Paul,	104
Boston,	115	Denver,	46
Newport,	111	Santa Fé,	41
New York,	109	Salt Lake,	93
Philadelphia,	112	Los Angeles,	51

The data on which this assertion was based were derived from the Signal Bureau, U. S. A. — and the conclusion I drew was: — "It is seen that, in Denver there is only about one-eighth of the entire year where an invalid would be kept in the house on account of the weather; in Jacksonville and Augusta he would be confined to the house for the same reason, one-quarter of the year; in St. Paul he would be kept indoors between a third and a quarter of the time, while in Boston he would have to be housed a good third of the time."

These facts were questioned, and the methods of deriving them criticised, by the late Edward T. Ely, M. D.,[2] and the objection was raised that the hours for taking the observations that furnished these figures were 5 A.M., 1 and 9 P.M. (local time) and that the two hours 5 A.M. and 9 P.M., coming at night, were of no interest to the Colorado invalid in estimating the amount of time that he could spend out-of-doors, because of the clearness of the sky.

To meet this objection I compiled the following table, the data being derived from the U. S. Signal Bureau.

Cloudy Days. Winter, 1884-5.

Months.	Denver Time.			
	9.08, A.M.	1.08, P.M.	5.08, P.M.	All Day, 9 A.M.–5 P.M.
September	2	0	3	0
October	7	2	5	1
November	3	4	6	1
December	11	9	9	1
January	5	5	3	1
February	9	9	5	1
March	4	5	7	3
April	12	5	6	3

The conclusion drawn was:[3] "While there occurred days in the winter, under observation, when the sun was not shining at 9 A. M., or at 1 P. M., or at 5 P. M., as the case might be, there were only eleven days in the whole eight months when the heavens were completely obscured at all three observations. In other words, there were only eleven days in the winter of 1884–1885 when the sun did not shine upon Denver between the hours of 9 A. M. and 5 P. M."

The same subject has been represented, diagrammatically, in maps furnished the Colorado State Medical Society by the United States Signal Bureau, at the request of the former. These maps, copies of which, with a reduced scale, I here introduce, are of interest, more as giving the ratios of cloudiness, than because they show the relative amounts of sunshine.

My reasons for making this assertion are that they are compiled from observations taken, the country over, at 7 A. M., 3 and 9 P. M., Washington time, two of the three observations being, practically, for most places, in the night (the corresponding times for the Rocky Mountains region being 5 A. M., 1 and 9 P. M.). Furthermore, in order to show the actual number of hours of sunshine at any given place, a self-recording instrument, of the Draper or other pattern, should be used to jot down the record for every minute of the

[2] New York Medical Journal, July, 1884.
[3] Popular Science Monthly, March, 1886.

day. Such instruments are not introduced into the Signal Service Stations, nor has there been any in operation, in Colorado, until quite recently, when three of the stations of the Colorado Meteorological Association have supplied themselves with them. These three instruments have, however, been in operation too short a time to furnish the required data.

Turning, then, to these maps, it will be seen that, in the spring of 1882, while the highest percentage of cloudiness in the United States was from $\frac{6}{10}$–$\frac{7}{10}$, in Denver it was from $\frac{4}{10}$–$\frac{5}{10}$ the minimum being $\frac{2}{10}$ around Yuma.

In the summer of the same year, Denver was $\frac{3}{10}$–$\frac{4}{10}$, as against a highest $\frac{5}{10}$–$\frac{6}{10}$, in the East, and a lowest $\frac{1}{2}$ of $\frac{1}{10}$, in lower and Western California. In the autumn, Denver was in the portion of the country freest from clouds, the cloudiness being only $\frac{2}{10}$, and in winter it was still in the least cloudy portion, the cloudines being only $\frac{3}{10}$.

These maps show that in the autumn and winter months, Denver, which may be taken as standing for Colorado, was in the portion of the whole United States where the sky was least obscured by clouds, while, in the spring, it was about mid-way in the scale.

In considering the amount of sunshine, as influencing the extent to which an invalid can be out-of-doors, it is fair to speak not only of the number of days in a year in which an invalid can enjoy the sunshine, but the number of hours in each day. At present, we can only show this by comparison with other resorts, and by giving the hours of sunrise and sunset.

The much-famed Davos has, according to Dr. Hermann Weber,[4] on the average, four hours and sixteen minutes per day during November, and four hours and forty-five minutes during January. This is due to its position, being located in a long and narrow valley, where the sun comes over the mountains late, and sets early.

In treating of this subject, Dr. Tucker Wise[5] gives the following table of sunrise and sunset for the first day of January:

	Sunrise.	Sunset.
Malaja	9.35, A.M.	3.45, P.M.
Wiesen	10.35 "	3.45 "
Pontresnia	8.30 "	3.10 "
St. Moritz	10.00 "	3.05 "
Davos Platz	11.03 "	3.00 "
Andermatt	11.45 "	3.15 "

By way of comparison, I introduce

Denver	7.30, A.M.	4.57, P.M.

I do not mean to say that what is true of Denver in regard to the hours of sunshine is true of each and every portion of the State; but I do assert that it is true of most of the places of resort, and that the geographical conditions for length of sunshine that exist at most of the resorts of Colorado are beyond comparison with that of most health-resorts, for here the sun rises early over a boundless plain, and rolls on an unobstructed course to a late setting beyond the distant mountains.

Whatever the advantages, then, that come from uninterrupted sunshine — and many claim, amongst the chief of these, an increased production of blood-corpuscles — whatever the advantages that come from uninterrupted sunshine, they are to be enjoyed to the full in Colorado.

Another factor in enticing an invalid to a life out-of-doors is not alone that the sun should be shining, but that the temperature should be comfortable. It is on this point that the Colorado climate has been most severely criticised by those who are without any personal experience of it, and it has been difficult to carry conviction to the minds of such that the assertions that have been made with respect to the comfort of being out-of-doors at mid-day in the very heart of winter, in this climate, have been true.

We, who have written on the subject, have asserted the facts time and again. We have told of going around, day after day, without overcoats; of sitting with open doors and windows; of sitting out-of-doors in shirt-sleeves; and of picnicking in mid-winter, only to be met with the: "But doesn't the mercury ever go below zero?" "Yes, occasionally it might. "Then it must be cold, where the mercury is below zero." Such persons are not to be blamed, never having experienced the difference, in feeling, between the same temperature in the damp air of the sea-board and the dry air of an elevated region, like that of the Rocky Mountains, they cannot appreciate the truth of Dr. Franklin's[6] remark that: "Even with a much lower thermometer, the air, if still, feels warmer at an elevated station than in lower and denser regions of the atmosphere, in consequence of the slower abstraction of heat from the body."

This explanation of the "slower abstraction of heat" should be borne in mind in interpreting the figures in the accompanying table, which gives the mean temperature at Denver, Col., for the eight months, September to April, inclusive, at the hours of 9.08 A. M., 1.08 and 5.08 P. M.

MEAN TEMPERATURE, 1884–85.

	9.08, A.M.	1.08, P.M.	5.08, P.M.
September	67.4	75.4	74 6
October	56.2	61.1	64.1
November	41.6	53.3	49.9
December	25.6	32.5	26.8
January	27.0	35.8	33.3
February	31.9	38.0	37.8
March	41.3	48.2	47.7
April	47.7	53.9	54.3

Furthermore, it should be remembered that these temperatures are the readings of a thermometer in the "shelter-box" of the local Signal Station, placed 100 feet or so, above the ground — and, so far as possible removed from the sun's rays and the influence of solar radiation.

This factor, solar radiation, is of great importance in considering the day temperatures of Colorado; one that can be explained by figures, but not thoroughly understood, save from personal experience. Says Prof. Edward Franklin, M. D., F. R. S., whom I have already quoted: —

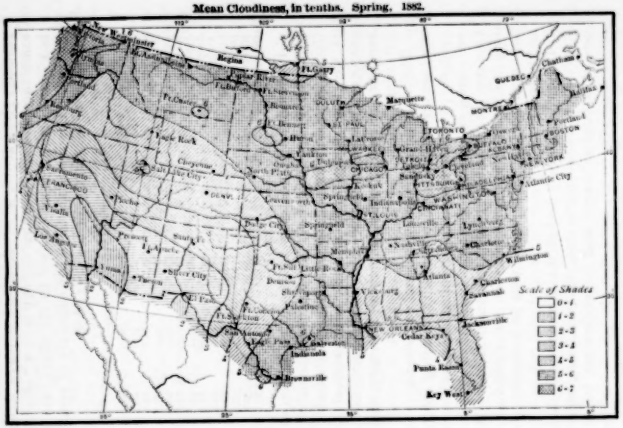
"The sun's rays are far more powerful at great, than at low elevations, and their intensity is much more equable throughout the day."

It is the *intensity* of the sun's rays, added to the *slower abstraction of heat* from the bodies that makes the day temperatures of Colorado enticing to an invalid for an out-of-door life; that makes it possible to sit with doors and windows open, and to picnic even in the middle of winter.

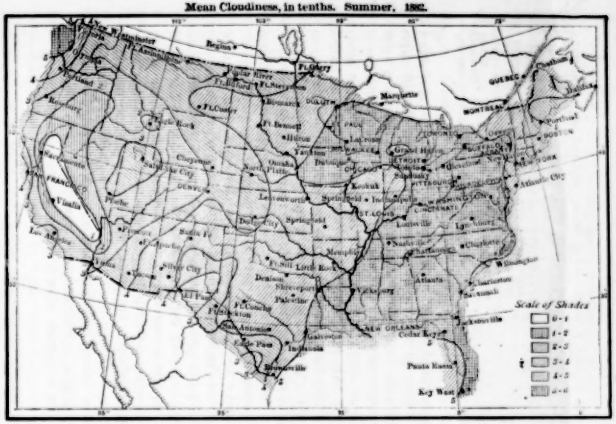
Not until recently have we been able to give figures in corroboration of our assertions, but for a year or more, the Colorado Meteorological Association has been taking observations with a solar thermometer (a blackened-bulb thermometer *in vacuo*) placed at the same elevation as the signal thermometer from which the

[4] Croonian Lectures, 1885, p. 83.
[5] "The Alpine Winter Cure," p. 68.
[6] Popular Science Monthly, July, 1885.

Mean Cloudiness, in tenths. Spring. 1882.



Mean Cloudiness, in tenths. Summer. 1882.



Mean Cloudiness, in tenths. Autumn. 1882.



Mean Cloudiness, in tenths. Winter. 1882.



readings given above, were taken, and exposed to the same surroundings save that the one is in a "shelter-box" and the other is exposed to the direct rays of the sun. The following table is a summary of results for the 1 P. M. reading for the year 1886.

MEAN TEMPERATURE. 1 P.M.

1886.	Solar.	Air.	Difference.
January	92.5	27.3	65.2
February	106.3	48.0	58.3
March	107.8	41.1	66.7
April	110.6	52.3	58.3
May	141.3	74.3	67.0
June	142.2	75.1	67.1
July	146.5	85.2	61.3
August	143.7	81.5	62.2
September	122.3	72.0	60.3
October	119.5	64.2	55.3
November	100.0	41.3	58.7
December	100.2	45.5	54.7

It should not be necessary for me to go into an explanation of these figures. They prove conclusively that it is possible for one to be around in the sunshine of the noon hours, even in mid-winter, without an overcoat; that it is possible to sit out-of-doors, *in the sun*, even in December, or January, or February, without being chilled.

The sensation is most novel and exhilarating. A sun-temperature of great intensity beating down upon one while he is constantly being bathed with the refreshing coolness of the air. I cannot describe it! One can theorize about results as he may please. He may say that the extremes between the air temperature and the sun temperature must be injurious and not to be borne.

I know, and every one of the thousands of inhabitants of Colorado knows, that, far from being injurious, it is most salutary; that it renders life out-of-doors wonderfully attractive; that one goes swinging along, in mid-winter, unimpeded by unnecessary wraps, with a step of bouyancy and a feeling of intense exhilaration.

With these factors of which I have spoken, a large percentage of sunshine, and a temperature of sufficient warmth to do away with over-coatings and wraps, what life does not open to our invalid!

Be he quite delicate, he can sit in a sequestered nook, away from draughts and winds, and bathe for hours in the genial warmth of a hot sun, while he is breathing an aseptic, dry, rare air. Be he more vigorous, he could do as is most common with our invalids, he can ride or drive, he can play croquet, tennis, or what not, — in short, he can be out-of-doors, almost constantly from sunrise to sunset and be pleasantly occupied the while.

It may be that in making these assertions I am forestalling things that should first have been said. Life in the air would not be so enticing were there rain, or snow, or fog. To be sure, it can hardly be true that there will be much rain, or snow, or fog where there is so much sunshine; yet to clear up any doubt and to state the matter positively I introduce the following table giving the total amount, in inches, of rain or snow (melted) that fell each month of the year 1886.

PRECIPITATION, 1886.

January	0.62	July	0.50
February	0.72	August	1.62
March	2.36	September	0.78
April	2.79	October	0.33
May	0.09	November	1.93
June	2.26	December	0.87
Total	14.87		

I will further state, that having had occasion to investigate the subject, some time since, I found that there was *not a single fog* recorded at our signal station during the months September to April inclusive, in 1884–85, as occurring between the hours of 9 A.M., and 5 P.M. Fogs do occur, but so rarely as almost to warrant the assertion that such a thing does not exist in Colorado.

One more factor I wish to speak of as favorable to out-of-door life in Colorado, and in this connection I may say that here, as in all else I have said, I make especial reference to the months that constitute an invalid's winter. September to April inclusive — and that is that this life out-of-doors is led on a dry, sandy, porous soil, free, almost the entire time, from any covering of snow and absolutely dry.[1] It is not my object to speak of soil-moisture in its relation to the production of consumption, a subject so ably treated of by Drs. Bowditch and Buchanan, but rather to urge the advantage to be derived from being out-of-doors on an absolutely dry, sandy, soil.

How could our invalids lead the life they do were there snow and ice on the ground? Horseback riding would be impossible, and this constitutes the chief exercise of our invalid population, and even driving would be uncomfortable. I say would be, because sleighing is a condition of things nearly unknown in Colorado. When snow falls, as it sometimes does, to the extent of fourteen inches or so, the intense solar heat, and warm winds soon melt it, and the porous soil soon drinks it up, and like Aladdin's palace it is gone. Of course this freedom from snow does away with wet feet, so common when there is snow, and with the inevitable and distressing "thaw."

The advocates of ice-and-snow-covered soils, such as exists in the Engadine in winter, trace its advantages to two sources; namely,

(1) It prevents dust and decay, and the microbe-laden evacuations from the soil (Hermann Weber).

(2) It influences the sun-temperatures by reflecting the solar rays from the snow (Franklin).

To show how unimportant this latter factor becomes, I quote figures from observations taken in the "Maloja," by Dr. A. Tucker Wise, and compare them with my own, already introduced.

MEAN SOLAR RADIATION.

Maloja.	Fahr.	*Denver*, 1 P.M.	Fahr.
November, 1883	115	November, 1886	100.0
December, 1883	89	December, 1886	100.2
January, 1884	105	January, 1886	92.5
February, 1884	108	February, 1886	106.3
Average	103.75	Average	99.75

In regard to the prevention of dust and decay and microbe-laden emanations from the soil, chapters might be written. It might be asked, for instance, whether decay and microbe-laden emanations will not be produced to an exaggerated degree by the thawing of the ice and snow that have kept them dormant for months; and whether this thaw will not come at these resorts at times when they should be especially in demand, because of the inclemency of the weather at the invalid's home.

The microbe-laden emanations are also the results of putrefaction, and can hardly be applicable to the vast extent of mountains, or the boundless plains, where there is but little animal or vegetable matter to decompose. In communities the prevention of these emanations must be a matter of sanitation.

[1] This is not always true of Denver, where the soil is more alluvial and is sometimes muddy, but it is true of the State at large, and especially of such places as Colorado Springs, Poncha Springs, Boulder, Idaho Springs, etc.

Perhaps the heaviest charge to be laid at our door as regards the prevention of out-of-door life, is the question of winds. While the average daily velocity in miles at Denver, is much less than in Boston, as is shown by the following table, yet it sometimes happens that we have high winds, which, in a city like Denver, where the streets are not paved and there is no snow upon the ground, picks up the dust and makes a so-called "dust-storm."

VELOCITY OF WIND, 1880.

	Spring.	Summer.	Autumn.	Winter.
Boston	257	184	223	281
Denver	156	143	115	127

In places like Colorado Springs, Boulder, Idaho Springs, Poncha Springs, etc., where the soil is more gravelly and where there are not any narrow streets, through which the wind can sweep, as through a funnel, dust-storms are infrequent. Even in Denver the days in which there was a wind of eighteen miles, or over, for two consecutive observations of the three, 9 A.M., 1 and 5 P.M., during the year 1886, were as follows:

HIGH-WINDS, 1886.

January	1	July	0
February	5	August	1
March	1	September	1
April	1	October	3
May	2	November	6
June	0	December	2

There were, in addition, about an equal number of times when there was a wind, of eighteen miles or over, at only one of the three observations.

These figures, I know, can carry but little idea, for unless one is acquainted with the methods of taking observations the simple statement that a wind is blowing eighteen miles an hour does not convey much information. It is nothing like a tornado, and perhaps should not be called a high wind. Many would speak of it as a pretty stiff breeze.

In mentioning the aseptic air, the clear weather, warm sun, dry soil, freedom from fogs, etc., as amongst the attractions that conduce to life out-of-doors in Colorado, I must not forget to add to them the vast number of natural objects that awaken interest and excite the curiosity.

There are mountains, and dells, and caves, and cañons to be explored; remarkable and grotesque formations in rock to be visited; an almost unknown Flora and Fauna to be studied, and upheavals and wonderful geological formations to be noted. There are mountains, on the one hand, with all the attractive features of life amongst the eternal hills, and plains close by to be roamed over at will, as one drifts about over the rolling sea.

Space will not permit of my going into detail, the guide-books and other writings are full of descriptions; and so I will draw what I have to say about the attractions to an out-of-door life in Colorado, to a close, by quoting from a remarkably impartial article written by the late Dr. Ely, who, himself an invalid, kept close observation of the weather of Colorado Springs. "From the 1st of September (1883) to the 1st of May (1884)" he writes: "I have been confined to the house by bad weather forty-two days — that is, there have been forty-two days (out of two hundred and forty-two) on which I have not been able to go out even one hour, and such may be fairly reckoned as days indoor. Of the remaining days there have been many when I should only be out from two to four hours, and when being out was a burden to the flesh. This record is satisfactory enough for me."

He then concludes his article as follows: "Colorado can easily afford to rest on its own merits, which are indisputable, and is only injured by much of the indiscreet praise bestowed upon it by its friends. Despite all objections which may be raised, the climate is, probably, as we have already said, the very best of its kind at present available for invalids, and destined to grow in popularity as its merits become more accurately understood."

ATYPICAL TYPHOID FEVER, WITH REPORT OF A CASE.

BY H. LAWRENCE JENCKES, M.D., HAZEL GREEN, WISCONSIN.

THE typical or common form of this disease is too familiar to require any description in this article. The report, however, of a case in which the temperature during most of the patient's illness was subnormal, may be of interest.

In a lecture on the subject by James C. Wilson, M.D.,[1] at the Philadelphia Hospital, he divided the atypical forms into the following classes; namely,

(*a*) Mild typhoid; (*b*) abortive typhoid; (*c*) typhoid of childhood (infantile remittent); (*d*) typhoid of the aged; (*e*) cases of febrile intestinal catarrh; (*f*) cases of afebrile intestinal catarrh. It is to this last and rare form that I would direct attention.

The writer was called on the 20th of April, 1886, to see a child ten years of age who had been unwell for several days. His tongue was slightly coated, bowels constipated. Pulse 100, temperature 100°, under the tongue when it was taken at each examination. At this visit he was given a dose of calomel and bismuth, and a Dover's powder left to be taken at bedtime. The calomel produced several free evacuations from his bowels during the night.

On the afternoon of the next day there was little change in his condition, his headache had not abated, pulse 100, temperature 101°. He was ordered a fever mixture. The next afternoon his pulse and temperature were 110 and 102.2° respectively. A milk diet was ordered. On the 24th there was no headache, but the pulse was 118, temperature 103.5°. No tympanites, but marked tenderness in the region of the ileo-cœcal valve. The case was pronounced one of typhoid fever, and the patient put upon the so-called "specific treatment" of carbolic acid and tincture of iodine, which caused so much nausea, however, that, after a few days it was discontinued, and the previous fever mixture was resumed.

On the afternoon of the 26th, the patient seemed worse. He would answer questions very slowly; his abdomen was slightly tympanitic and tender on pressure, pulse 118, temperature 101°. It will be noted that the temperature fell 2.5° on the seventh day of treatment, and about the tenth day of his illness. As he had not been overwhelmed with quinine or antipyrine, it could hardly have been the result of treatment. On the 27th, a moderate diarrhœa set in, with pulse 120, temperature 99°; in all other respects the condition was unaltered. There was no change on the 28th, but on the 29th the tympanites had increased, and blood appeared in the discharges; pulse 124, temperature 98°. For six days, until May 5th, there

[1] Medical News and Abstract, July, 1881.

was little change in any of the symptoms. Rose spots appeared upon the abdomen, the pulse ranged from 118 to 124 and temperature from 98° to 99°.

From the 5th to the 18th, the pulse remained about 115 to 120, and the temperature about 98°. On the 19th his pulse fell to 108, after a profuse perspiration, and his temperature was 98.5°. After the 20th no record was kept, but on the 24th the temperature was normal, the pulse 100. The patient was quite cheerful and sat up an hour that day. The only striking feature of this case is in connection with the temperature which remained at 98° for about three weeks, with all the other symptoms of severe typhoid fever, well marked. This case, with a few others that have been published has a tendency to prove that elevation of temperature *is not absolutely necessary* in cases of typhoid fever, although the general belief is that it is excepting in mild cases.

In looking over the literature at hand upon the subject, I can find but few cases reported. Hartshorne says:[2] "An attack of disease, in which, on the second day, the heat in the axilla is as high as 104°, is not typhoid fever, and the same exclusion applies if, from the fourth to the eleventh day, the temperature falls below 103°."

Fräntzel[3] reports the following: "Several cases of typhoid fever which attacked exhausted individuals, and which ran their course with low temperature, or without fever, but in which occurred general collapse, serious cerebral symptoms, and tendency to gangrene of the extremities, which run a strikingly acute course. Such cases indicate that high temperature is not the only cause of death in typhoid fever, but that cerebral symptoms are of great importance, and that patients even with low temperature must be carefully watched, to prevent them from the many evil consequences of even quiet delirium."

In the article on typhoid fever by Liebermeister,[4] cases are mentioned in which the temperature is not high (afebrile cases), but such cases are classed as mild. He attributes more significance to the character of the temperature than to any other symptom of the disease.

Professor Flint[5] says: "More or less increase of the heat of the body is invariable. The rule that, during the greater part of the disease, the temperature is raised is without exception; but, under certain circumstances, the heat may not exceed, and it may even fall below, the standard of health."

In a review article[6] I find the following: "Mr. J. V. Lentaigne's case of fatal peritonitis, following perforation of an ulcerated small intestine, is of very great value with reference to the diagnosis of enteric fever and the occurrence of afebrile cases of that disease. The patient from whose body the specimens were taken came from a notoriously unwholesome tenement, in which thirty-three or thirty-four persons lived in eight apartments. Seven deaths had recently occurred, and one man was then sick abed. Furthermore, the main sewer of the street had been for some weeks "open." The man had been ill for about a fortnight, and had been refused admission to three hospitals. When received into the Jarvis Street Hospital, although manifestly ill, his temperature was normal, and the difficulty in diagnosis appeared to be due to this fact. The autopsy discovered the lesions of enteric fever. The writer of this review has elsewhere insisted upon the fact, too little recognized, that enteric fever may run its course not only without the typical temperature of Wunderlich, but even with a sub-febrile temperature; and, in certain rare cases, the nature of which is established by the complexus of symptoms and the coexistence of house epidemics, actually without any rise of temperature at all. It is a quibble to say that such cases are not enteric fever. They are the specific enteric disease, of which the usual fever is merely one of the prominent, but not, therefore, always essential symptoms."

From this imperfect review of the subject, the following may be deduced:

(1) The typical course of Wunderlich does not occur in all cases of typhoid fever.

(2) Even severe cases are occasionally seen in which the temperature does not exceed the normal.

(3) That it is unnecessary, and may even be hurtful, to direct the treatment *solely* to the reduction of the fever, but that symptoms must be met as they arise.

[2] Essentials of Practical Medicine, p. 383.
[3] Zeit. für Klin. Med., Band ii, § 217, from the Medical News and Abstract, September, 1881, p. 537.
[4] Ziemssen's Cyclopædia of the Practice of Medicine, Vol. I.
[5] Flint's Practice of Medicine, p. 878.
[6] American Journal of the Medical Sciences, October, 1884, p. 93.

REPORT ON PROGRESS IN DISEASES OF THE CHEST.

BY F. C. SHATTUCK, M.D., BOSTON.

MORTALITY FROM CONSUMPTION AMONG THE TROOPS IN THE UNITED KINGDOM.[1]

AN important paper on this subject was read before the Statistical Society of London in January, 1887, by Robert Lawson, LL.D., Inspector-General of Hospitals. The periods embraced were from 1837 to 1846, and from 1860 to 1884, there having been no returns from 1847 to 1858.

It is shown that there has been a marked reduction in the mortality from consumption in the military, just as in the civil population.

There is a very general belief that the great reduction of consumption in the army was due to improved ventilation in barracks; this was commenced in 1859, and was pretty generally introduced in 1862, and should immediately have begun to show its effects. The mortality from consumption in 1860–62, however, was 5.80 per 1,000, and that of 1864, 5.56 — a reduction of 0.24 only after two years' full operation of the ventilation — while, in 1865, the ratio was 4.84, or full three times as great which followed the substitution of flannel for linen or calico shirts in 1864; and this low ratio continued, with little alteration, for the next fifteen years. Up to 1823, the troops wore cloth trousers in summer. That year, white linen was introduced instead, which were often put on damp, and without any under-clothing. In 1846, a light woollen material was introduced in place of the linen. So far as the records enable an opinion to be formed, the introduction of the linen was followed by a large increase of deaths from consumption, and the substitution of woollen material, in 1846, was followed by an equally remarkable reduction. In 1880–84, the mortality from consumption between the ages of eighteen and forty-five in civil life was 2.81 per 1,000; in the army, 2.70 per 1,000.

[1] Dublin Journal of Medical Science, March, 1887, p. 311.

It would appear that the causes chiefly concerned in reducing consumption, lately, at least, are such as improve the general health.

ASTHMA: ITS ETIOLOGY AND MECHANISM.

Glasgow [2] has made laryngoscopic examinations in a number of cases of asthma during the paroxysms. He was led to this course by a previous study of a peculiar condition of the nasal mucous membrane encountered in "persons of a marked nervo-vascular temperament, and in whom functional nerve disturbances were common." This condition is characterized by pallor, swelling, and œdema; any irritation of the membrane is followed by an increase in the swelling, and the pouring out of a thin, watery secretion. The swelling subsides on the inhalation of ether and amyl nitrite, or the application of atropia or morphia, but is not influenced by cocaine. The pathology of the condition is thought to be vaso-motor spasm of the arterioles of the membrane.

During an asthmatic paroxysm, a similar condition of things can be observed in the pharynx, and also in the larynx and trachea, the swelling, however, being less marked in the latter than in the former. Glasgow thinks it fair to infer that the bronchial mucous membrane shares in this condition. "I would, then, consider asthma to be a disorder of vascular irritability; that the paroxysm is directly due to a partial occlusion or cylindrical narrowing of the lumen of the bronchi, through the swelling of the bronchial mucous membrane; that this swelling is caused by a vaso-motor spasm of the arterioles, with a saturation of the tissues by the liquor sanguinis. This condition is accompanied by a general high blood-pressure.

"With this theory, we find a complete explanation of all the physical signs of asthma. We see the possibility of the rapid changes of physical signs observed during the paroxysm, and we have in its support the physiological action of all the drugs which experience has found to be of value in allaying the paroxysm. The nitrite of amyl, morphia, chloral, lobelia, and iodide of potash, in their action, allay the spasm, at the same time that they tend to reduce general blood-pressure, whilst drugs like the bromides prove of less value in breaking the paroxysms when once in force, although they are serviceable in preventing a recurrence."

In connection with the above paper, it is of interest to abstract briefly a recent paper of Professor Fraser,[3] who thinks that the changes which take place in asthmatic dyspnœa under the influence of the nitrites can be explained only by the acceptance of the old and long generally-received theory that the essential feature of bronchial asthma is spasm of the muscular coat of the bronchioles.

"The first observations I made with these objects in view was in 1880, on a patient twenty-two years of age, of markedly nervous diathesis, who had suffered from asthma for several weeks. The chest was auscultated during an asthmatic paroxysm of moderate severity, and it was found that cooing, whistling, and creaking râles were abundantly present. She inhaled, during fifty seconds, a few minims of nitrite of amyl. Two minutes after the inhalation had been commenced the râles had entirely disappeared, and her breathing had become quite easy. In another minute the râles had returned, and the breathing had become more difficult. After an interval of six minutes, when both the râles and the dyspnœa were present in their original abundance and severity, she again inhaled nitrite of amyl, this time for thirty seconds, and in forty-five seconds after commencing the inhalation the râles had entirely disappeared, and the breathing was perfectly unembarrassed. In five minutes afterwards, the original state of breathlessness, with its accompanying auscultatory phenomena, had returned. After an interval of ten minutes, nitrite of amyl was a third time inhaled, with essentially the same results as on the previous two occasions."

This observation has been since repeatedly verified, other nitrites and nitro-glycerine being used. Also in bronchitis accompanied with dyspnœa, similar results have been obtained, the breathing becoming easy, and the dry râles disappearing. Of the class of remedies under consideration, the author prefers nitro-glycerine and nitrite of sodium, both stable compounds, and capable of subcutaneous introduction into the system.

It will be noticed that Glasgow attributes the effects of the nitrites to their action on the unstriped muscle of the arterioles; Fraser, to their action on the unstriped muscle of the bronchioles.

PNEUMOTHORAX IN APPARENTLY HEALTHY PERSONS.[4]

Dr. de Haviland Hall reported, at a meeting of the London Clinical Society, a case of pneumothorax coming on suddenly, and gradually disappearing without leaving any traces behind it. He, at the same time, gave brief abstracts of four similar cases which he had found in literature. Dr. Hall, as well as most of those who took part in the discussion, thought it probable that a latent and limited tuberculosis was present in most of these cases. Dr. Burney Yeo said that, during ten years' experience at Brompton, he had never met with such a case as those described by Dr. Hall. He supposed that sufficient stress had not been put on dry pleurisy as a cause for the condition. This form of pleurisy might easily escape notice, or be discovered only by accident.

SUDDEN DEATH IN PLEURISY.

This important subject is carefully studied by Weill,[5] who has collected, and, as far as the scanty details of many of the cases will allow, analyzed twenty-seven cases. His conclusions are of special interest in that they differ, as will be seen, in some respects from those generally entertained.

The principal conclusions to which the author's studies have led him are as follows:

(1) Sudden death in pleurisy seems to be referable to certain lesions, the chief of which are thrombosis and embolism of the heart and pulmonary artery, œdema of the lung of the other side, and changes in the myocardium. The latter are often overlooked, inasmuch as their detection requires the aid of the microscope.

(2) It is not possible, at present, positively to affirm or deny the dependence of sudden death in pleurisy on simple functional disturbances, such as syncope; mechanical causes, like dislocation of the heart, twisting of the vessels, rectangular bending of the ascending vena cava; or hypothetical lesions, such as capillary embolism of the brain.

(3) Sudden deaths occur in all kinds of pleurisy,

[2] Am. Jour. Med. Sciences, July, 1887.
[3] Lancet, 1887, II, p. 51.
[4] British Medical Journal, 1887, I, p. 618.
[5] Revue de Médecine, January 10, 1887.

whether right or left; acute or chronic; in the increasing, stationary, or declining stage. The fluid is generally serous.

(4) Pleurisy terminating in sudden death may or may not be accompanied by such special symptoms as attacks of dyspnœa, premonitory faintness, irregular pulse, or displacement of the heart. Often death comes on at a time when the patient seems to be doing extremely well. It generally follows motion or exertion.

(5) Treatment, though powerless in cases of myocarditis or thrombosis of the peripheral veins, has a prophylactic value in cases of another nature. This preventive treatment is thoracentesis.

THE OPERATIVE TREATMENT OF ABSCESS OF THE LUNG (QUINCKE).[6]

A man of twenty-six was admitted into hospital with an abscess in the left lower lobe, the result of pneumonia two years before. The expectoration was not at first offensive, but became so after a fresh attack of pneumonia in the right lower lobe, apparently due to aspiration of the secretion from the cavity. The cough was very troublesome, and irregular fever was present. The examination showed that the abscess-cavity was connected with one or more bronchi, that it was lined with a smooth membrane, and surrounded by thickened tissue, but that the pleural layers over it were not adherent. The latter conclusion was warranted by the fact that the movements of the affected side were not limited, and the portions of the left lung bordering on the heart and spleen moved freely in respiration.

The indication was clear to incise and drain the cavity, but the author's previous experience had taught him the danger of such a procedure when the pleural cavity, at the point of section, is not obliterated by firm adhesions. A cut was, therefore, made June 2d, in the eighth interspace through the skin and muscles, and in the cut was placed chloride-of-zinc paste. July 2d, a fine trocar was thrust into the line of incision without result. July 9th, it was again inserted and left in place, but replaced several days later by a lead-sound. The result was again negative, as was also puncture in another spot, followed by the thermo-cautery. August 21st, an inch of the ninth rib was resected, and the thermo-cautery was worked into the lung to the depth of an inch. Several other fruitless attempts were made to reach the cavity, which finally, September 14th, opened itself through the wound. Drainage was not, however, satisfactory, and it seemed that the cavity did not communicate directly with the wound, but was connected with it by a bronchus.

The following month, portions of the sixth, seventh, and eighth ribs were resected, with the hope of allowing the chest-wall to fall in, and thus aid in the obliteration of the cavity. This hope was not realized, and the patient did not wish to undergo any more rib-resection. In December, he left the hospital and resumed his occupation — locksmith. In the last three-and-a-half years he has worked steadily, has married, and is a father. He has no cough or expectoration. The cavity still discharges, but the patient wears an ingenious contrivance of his own, which saves him any great inconvenience from the discharge, which is perfectly sweet.

[6] Berliner Klin. Wochen., 1887, No. 19, p. 337.

While he was in the hospital, the discharge was repeatedly examined for bacilli, without result.

The report of the case is followed by remarks on the literature of the subject, and reasons for the great importance of making sure that there is pleural adhesion before operative treatment is resorted to in these cases.

AORTIC ANEURISM AND AORTIC ATHEROMA IN CHILDREN.[7]

Aneurism is a very rare disease in childhood. Roger, in 1863, showed a specimen of aortic aneurism in a child of ten years, and Crisp then reported that, out of 551 cases of aneurism, only five occurred in persons whose age varied from a few days to twenty years. In this paper, Sanné gives notes of four cases. The first, observed by Phaenomenon, was found in the body of a still-born child. The aneurism, which affected the abdominal aorta, was ten centimeters in breadth, and eleven centimeters in length. The structure of the arterial coats is said to be "altered," but in what way is not stated. The second case, that of Roger, was in a child of ten years, who had all the physical signs and clinical features of aneurism of the arch of the aorta, but was taken out of hospital before death. Case 3 was observed by Sanné himself: a child of thirteen years suffered for six months from cyanosis, dyspnœa, with occasional œdema of the legs. The physical signs showed dilatation of aorta and insufficiency of the aortic valves; death in three months. Section: hypertrophy of left ventricle; dilatation of aortic arch; atheroma and thinning of its walls, with a small sac at the top of the curve; aortic valves incompetent and atheromatous. Fourth case, reported by Moutard-Martin, had not an aneurism, but the heart was greatly dilated, and the aortic valves and aorta itself showed patches of atheroma; this child was ten years of age. A fifth case was shown by Dr. Norman Moore to the London Pathological Society, in 1882, from the body of a child of five years. The symptoms and physical signs are the same as in the adult; no information as to the etiology is given.

VALVULAR DISEASE OF THE HEART AS A CAUSE OF EPILEPSY.

Lemoine[8] reports three cases in which the disturbances of the cerebral circulation secondary to imperfectly-compensated valvular lesions seemed to be causative of epileptic attacks. The latter entirely ceased, or grew far less frequent, after the administration of cardiac tonics — digitalis and caffeine. Two of the cases were of mitral, one of aortic disease. In the former, of course, the tendency is to venous congestion of the brain; in the latter, to arterial and general anæmia. A possible result of either of these opposing conditions is convulsion.

DILATATION OF THE RIGHT AURICLE.[9]

Schrötter lately found in a case dulness in the right side of the chest, near the sternum, over an area corresponding to the situation of the right auricle. In order to determine whether the dulness was due to a dilated auricle, or to an encapsulated pleural or pericardial effusion, he inserted a needle, and obtained

[7] Centralblatt für Kinderheilkunde. Edinburgh Medical Journal, August, 1887, p. 188.
[8] Revue de Médecine, 1887.
[9] Fortschritte der Med., 1887, No. 13, p. 415.

only pure blood, thus establishing the diagnosis of dilated auricle.

Death occurred later, apparently in no way hastened by the puncture, and marked tricuspid stenosis was found to be the cause of the increase in the size of the auricle.

SPARTEINE AS A HEART-TONIC.

In the "Report on Progress" for March 4, 1886, the high recommendation of this drug by Sée was noticed. Since that time the remedy has been tested by others, all of whom do not join with Sée in rating it higher than digitalis. Among these are Voigt, who used it in Nothnagel's clinic, and Stössel,[10] who reports on its use in Schrötter's clinic. The drug was given in valvular disease, Bright's disease, and cirrhosis of the liver. Its action is similar to that of digitalis, but is less powerful, and no diuretic effect was obtained. "Digitalis is superior to sparteine in every respect," and is to be used only when the former disagrees, or as a substitute, the former having been already used with good effect.

VALVULAR DISEASE OF THE HEART KNOWN TO HAVE EXISTED FOR OVER FIVE YEARS WITHOUT CAUSING SERIOUS SYMPTOMS.

Sir Andrew Clark[11] finds in his case-books, between the years 1873 and 1886, "684 cases in which there existed chronic valvular disease of the heart, the presence of which was not indicated by symptoms, and did not sensibly interfere with health; and if I were to add to this number the instances which I have not recorded, the instances which I have failed to discover, and the instances which I have met with in consultation with other medical men, the number would be raised to a thousand."

These 684 cases are tabulated and analyzed: 326 of these were led to seek advice by disorders or diseases of the digestive system; 134 by disorders of the nervous system; 81 by rheumatic affections; 47 by respiratory disturbance; 30 by cutaneous diseases; and 23 by gout.

Some most interesting and instructive cases are detailed, among them cases in which the health first began to suffer after the patients were told by their physicians that they had heart disease.

In the great majority of cases of chronic valvular disease of the heart, it is not only safe, but desirable to recommend the patient to return, in a more or less modified degree, to a strict observance of the physiological conditions of life as respects diet, clothing, exercise, and occupation. But, "when the heart is irritable, frequent, intermitting, or irregular; when the murmurs vary in character and intensity; when there is any suspicion that recent changes have been occurring in the interior of the heart; and, more especially, when there is any febrile disturbance of the system, it is necessary that the patient should be kept at rest, and fed upon the lightest food."

Another point of very great interest and importance is well brought out by the author; namely, that inflammatory changes in the valves may, in the course of time, quite disappear, leaving no trace behind them. Thus organic weakness may, after lasting some years, vanish entirely.

"And now, turning to another side of our subject, let me ask, concerning a given case of valvular heart lesion — say, for example, a case of mitral regurgitant disease — what are the conditions which, assuming, on the part of the patient, obedience to properly-adjusted rules of health, would justify us in permitting him to continue the ordinary duties and enjoyments of life, in sustaining an application for life-insurance, in sanctioning marriage, and in speaking favorably of his prospects of longevity. Well, according to my experience and judgment, these conditions are as follows:

"(*a*) Good general health.

"(*b*) Just habits of living.

"(*c*) No exceptional liability to rheumatic or to catarrhal affection.

"(*d*) Origin of the valvular lesion independently of degeneration.

"(*e*) Existence of the valvular lesion without change for over three years.

"(*f*) Sound ventricles, of moderate frequency and general regularity in action.

"(*g*) Sound arteries, with a normal amount of blood and tension in the smaller vessels.

"(*h*) Free course of blood through the cervical veins.

"(*i*) Freedom from pulmonary, hepatic, and renal congestion.

"Here it must be said, as a matter of course, that the conditions of a favorable prognosis would differ for different valves, and for each valve, according to the character of the lesion. A comparatively small 'loading' might justify assurance, in a favorable case, of mitral regurgitant disease, whilst no 'loading,' however heavy, for a time however short, would warrant acceptance of a case of regurgitant disease of the aortic valves. If, in the former case, the risks to be incurred were to be reckoned as one, then, in the latter case, the risks to be incurred would have to be reckoned as a thousand. The person with aortic might possibly live as long as the person with mitral disease, but there would be such small security for the transaction, that, considering the possibilities of disaster, it could not be regarded as other than a reckless speculation."

This most valuable paper concludes with the following propositions:

"(1) That there are many persons with long-standing valvular disease of the heart engaged in the active business of life, who, without any symptom of heart disorder, enjoyed good health, and have reached an advanced age.

"(2) That the mitral regurgitant murmurs so often encountered in chorea for the most part disappear within eight or nine years of the attack.

"(3) That valvular inflammations and their effects, arising in the course of rheumatic fever, do sometimes disappear, and leave behind no clinical evidence of their former existence; and that this, occurring for the most part in the young, also occurs sometimes in the middle-aged.

"That the signs of valvular defects arising out of the degenerative changes of middle life do also, on rare occasions, disappear, and that, when circulatory and respiratory disturbances accompany their commencement, they sometimes subside, and permit of apparently complete re-adjustment.

"(5) That as there must be in the histories, habits, occupations, and surroundings of patients with valvular disease conditions which, in one case, bring about secondary disorders, and, in another case, exempt it

[10] Centralblatt f. d. Gen. Therapie, 1887, p. 163. Fortschritte der Medicin, May 15, 1887.

[11] British Medical Journal, 1887, I, p. 260, 325, 370.

from them, it is desirable that the respective differentiæ should be discovered, and made capable of application to practice.

"(6) That any systematic and critical study of this subject likely to lead to practical issues should be undertaken only by the Collective Investigation Committee, and not by it unless actively assisted by experienced general practitioners, who possess, in a special manner, the knowledge necessary to the end in view.

"(7) That a joint inquiry of the kind proposed, conducted with due patience, discrimination, and accuracy, would greatly extend our knowledge of the natural history of diseases of the heart, and largely increase our means of assisting those who suffer from them."

Clinical Memorandum.

AN ACCIDENT WITH COCAINE.

BY ALBERT N. BLODGETT, M.D.

On the afternoon of April 25th, 1887, I was visited in my office by Dr. J. R., aged twenty-three years, who has always been well and strong, and is not addicted to the use or to the abuse of any stimulant or narcotic. He desired to consult me in relation to a small growth situated upon the right side of the face, at a point about half an inch in front of, and on the level of the superior border of the tragus of the right ear. The growth had been noticed but a few weeks before, and had caused no inconvenience, but on account of a supposed predisposition to the development of malignant disease in his family, the discovery of this small tumor had given rise to some degree of anxiety in the mind of the patient. The patient was in perfect health, pulse sixty, and had been employed all day in his usual avocation. Dr. R. had used cocaine to a considerable extent in his practice for the purpose of producing local anæsthesia in the operations of minor surgery, and suggested that this agent should be employed by subcutaneous injection in his face. I agreed to this, and injected three minims of a twelve per cent. solution, which he had brought with him, and which had been specially prepared for the occasion. The syringe was one of mine, and had not been used previously to this occasion. All air was carefully evacuated from the shaft and needle of the syringe, and the cocaine was injected at two points, one in front and the other behind the tumor, care being taken to avoid the location of the facial nerve, the parotid gland, and the larger vascular channels of this region. Thirty seconds after the injection was made the patient began to complain of a feeling of great depression, a sensation of coldness, and of faintness. It was thought at first that these sensations were due to fright, or to an undue amount of apprehension as to the action of the drug; but this proved to be erroneous. The patient rapidly became cyanozed, the breathing changed to a sighing character, the pulse was one hundred and forty and weak, the face was bathed in cold perspiration, there were short periods of profound collapse with unconciousness. The patient was assisted to a couch, where he soon became quite helpless. Stimulants were administered, the heat of the surface was maintained, the body warmly covered. At the expiration of a quarter of an hour the finger on the pulse showed a commencing improvement in the patient's condition. With the restoration of the organic functions, came a mild form of delirium, the patient talking incessantly upon all possible subjects, and apparently not realizing that he had been in any abnormal condition. Soon the pulse was reduced to eighty per minute, and the skin became warm. The delirium gradually subsided, and the patient slowly returned to his natural state. Another injection of two minims of cocaine was now made in the periphery of the tumor, and after waiting for a few minutes, the small growth was quickly and painlessly removed. The patient remained somewhat excited and was unusually loquacious for some hours afterward, but had no return of the collapse or any other sign of impending danger.

I have thought that possibly the first injection was of too large amount, and by its sudden presence in the vascular system, may have dangerously affected the central organs of circulation, or the higher nervous centres. The latter would seem the most probable explanation, as the effect was developed with a degree of rapidity which I have never seen equalled by any other drug which I have ever used by subcutaneous injection. I was incredulous when the patient began to complain of the effects of the injection, for I thought it too soon for any effect whatever to be produced, but the clammy perspiration, the lividity of the face, the accelerated pulse, the weakness, the loss of conciousness, the sighing respiration, and the general collapse proved that it was not fright alone, for the patient was not afraid of the drug; but that it was due to the action of the substance upon the most important structures of the body.

I was much impressed at that time by the report of the fatality which had then recently occurred in Russia in consequence of the use of cocaine, and for a time feared that some unfortunate result might follow in this case, but I now think that the collapse was not of sufficient gravity to warrant so grave apprehension. I shall, however, endeavor to secure the action of the anæsthetic on future occasions by slower administration of the drug, and thus hope to avoid a repetition of this disagreeable experience.

Reports of Societies.

AMERICAN DERMATOLOGICAL ASSOCIATION.[1]

ELEVENTH ANNUAL MEETING.

THURSDAY, SECOND DAY. — MORNING SESSION.

At the business meeting, the following officers were elected: President, Dr. I. E. Atkinson, of Baltimore; Vice-President, Dr. P. A. Morrow, of New York; Secretary and Treasurer, Dr. G. H. Tilden, of Boston.

The report of the Committee on the Congress of American Physicians and Surgeons was received and adopted. Dr. I. E. Atkinson, of Baltimore, was appointed representative to the Executive Committee of the Congress, and Dr. G. H. Tilden, alternate.

The first paper read was by DR. E. B. BRONSON, of New York, presenting a

CLASSIFICATION OF DISEASES OF THE SKIN.

The classification was made upon an anatomical

[1] Concluded from page 259.

basis. Cutaneous affections were divided into the following five classes: (1) idioneuroses; (2) angioses; (3) epidermidoses; (4) cryptoses; (5) dermoses. Diseases of the skin were further divided into sub-orders, tribes, families, genera, and species.

DISCUSSION.

Dr. P. G. Unna, of Hamburg. We can never have a complete, definite, scientific classification of affections of the skin. As the knowledge of disease progresses, so must our classifications change. The ideal classification would be one made, not upon anatomical, but upon an etiological basis.

Dr. L. D. Bulkley, of New York. I would express great admiration for the classification which has been presented, but I think that it is hardly suited for practical, every-day use. As an attempt to scientifically classify diseases of the skin, it is far in advance of any classification yet offered.

THE DIAGNOSIS OF DERMATITIS HERPETIFORMIS,

by Dr. L. H. Duhring, of Philadelphia.

The author had been led to believe, from the perusal of various reports of cases, that this affection was not thoroughly understood. He, therefore, thought it desirable to offer some remarks with reference to its diagnosis. The chief characteristic of the affection is the multiformity of its lesions manifested in the natural evolution of the disease. If a given case remain sufficiently long under observation, multiformity of lesion will sooner or later be noted, and this will repeat itself.

Blebs, vesicles, and pustules may appear together or separately. Mixed eruptions are the most common, vesicles predominating. In one attack or another, only one kind of lesions may be present. The disease presents clearly-defined characters in distinct elementary lesions, and certain distinctive abortive lesions. Secondary forms of lesions also exist. Pigmentation of a dirty yellow or brownish hue, and variegated, is usually a marked feature in chronic cases. Excoriations from scratching, with thickening of the skin, usually exist. In no other affection are such varied combinations of lesions met with as in dermatitis herpetiformis.

Erythema and vesicles, or vesicles and blebs, or blebs and pustules, frequently exist, side by side, in close proximity, with more or less pigmentation, excoriation, and secondary changes. Itching is usually a most distressing symptom, and is most severe in the vesicular variety. In the pustular form, subjective symptoms may be wanting. The disease is extremely chronic, extending over a number of years. In two cases under the author's observation, the duration had been thirteen and eleven years, respectively, and the disease was still active, with no prospect of cure. The eruption tends to recur at variable periods, usually six or eight weeks.

Some cases of dematitis herpetiformis closely resemble cases of erythema multiforme, but the lesions of the former disease are less sharply defined, and the course of the two affections is different, erythema multiforme being an acute disease of short duration. The disease occasionally resembles herpes iris, but the chronicity of the affection would exclude herpes iris. The lesions are also more virulent, and accompanied with a more profound degree of cutaneous disturbance. Herpes iris is a benign affection, running an acute course, and terminating in recovery, although subject to relapses. When the bullous varieties exist alone, they may resemble pemphigus vulgaris. The combination with other lesions will, however, prevent any confusion in the diagnosis.

With reference to the term dermatitis herpetiformis, the author stated that he had adopted it in preference to dermatitis multiformis, for the reason that there was already a disease named erythema multiforme, and the use of the term dermatitis multiformis might lead to confusion, and give rise to the opinion that its was simply an advanced stage of erythema multiforme.

DISCUSSION.

Dr. L. D. Bulkley, of New York. I wish to briefly report a case showing some of the difficulties of diagnosis. A man was admitted to the hospital with remarkable skin lesions, and the case was regarded by all who saw it as one of dermatitis herpetiformis. The patient was suffering with fever, and the temperature remained high until death. In connection with the lesions of the skin, there was general alopecia of the body. At the autopsy generalized sarcoma was found, affecting the spinal cord and various internal organs. Whether or not the cutaneous lesions were simply the manifestation of the internal disease, I cannot say.

The President, Dr. H. G. Piffard, of New York. I cannot help thinking that the author has included in his description diseases of quite different nature. Some of these cases are analogous to the old hydroa, others may be of septicæmic origin, while possibly, some may be the result of local irritation. It seems unphilosophical to consider these different conditions under one head. I have seen, as the result of bites of insects, lesions corresponding to those described in some of the cases of dematitis herpetiformis. I should hardly consider such a case an example of this disease.

THE TREATMENT OF LEPROSY,

by Dr. P. G. Unna, of Hamburg.

The speaker, after referring to the fact that leprosy was usually considered incurable, and that as a consequence, treatment was not resorted to, stated that he had recently treated five cases of this affection with encouraging results. The treatment consists in the external use of the following ointment:

Chrysarobin	Five parts.
Ichthyol	Five parts.
Salicylic acid	Two parts.
Vaseline	One hundred parts.

This is applied to the nodules on all parts of the body with the exception of those on the face, neck and hands. In the latter situations pyrogallic acid is substituted for the chrysarobin in the above formula. Such an application may be continued for months. For some of the older nodules, this is not sufficiently strong. For these the author employs salicylic acid or salicylic and chrysarobin in the form of a plaster on muslin. This is allowed to remain two or three days or a week. Under this application the tubercles disappear.

In the five cases treated by this method, there has been a rapid disappearance of the leprous matter in the skin. There also was in these cases a decided improvement in the general condition, although no internal remedies were given, the object being to test the efficacy of the external applications.

DISCUSSION.

DR. P. A. MORROW, of New York. I have recently had the opportunity of treating a number of cases of leprosy, and I believe that certain cases of leprosy are as responsive to chaulmoogra oil, as are cases of syphilis to mercury. In the case of a Norwegian, the subject of tubercular leprosy, the lesions have disappeared and he has apparently recovered under the use of chaulmoogra oil. On a number of the nodules of the face, I used caustic potash, and they disappeared very rapidly. Some cases, however, fail entirely to respond to this treatment.

The President, DR. H. G. PIFFARD, of New York. Some time ago I treated a case of leprosy in a young man from Bermuda. When he entered the Hospital, he was unable even to dress himself. He was given a preparation containing strychnine, and in six weeks was engaged in rowing a boat across the river. I have also used nux vomica in as full doses as the patient would tolerate. I am in the habit of associating this with the external use of chaulmoogra oil.

AFTERNOON SESSION.

THE USE OF MEDICATED RUBBER PLASTERS IN CERTAIN CUTANEOUS DISEASES,

by DR. H. W. STELWAGON, of Philadelphia.

The speaker had employed rubber plasters containing a certain percentage of various substances, such as chrysarobin, pyrogallic acid, ammoniated mercury and oxide of zinc. The special field of these plasters is in the treatment of certain chronic affection, such as sluggish patches of eczema, psoriasis, callosities and ring worm. A ten to twenty per cent. plaster of salicylic acid is useful in the treatment of callosities. In the treatment of lupus vulgaris the effect obtained from the pyrogallic acid plaster was equal to that obtained by the use of the ointment. Chrysarobin plaster has been used with advantage in ring worm. The application may be allowed to remain in position one or two weeks.

DR. P. G. UNNA, of Hamburg. In the plasters which I have employed, the plaster mass is spread upon muslin much more flexible than that on which the rubber plaster is spread. The adhesive material which I have employed has been either the oleate of aluminium or the best india rubber. As little of the adhesive material as possible is employed, not more than two to five grammes to the square metre. The strength of the plaster is reckoned, not by percentages, but as so many grammes of the active agent to the square metre.

SALT IN DERMAL HYGIENE AND THERAPEUTICS,

by DR. H. G. PIFFARD, of New York.

Ordinary sea water contains two per cent. of saline matter. It also contains an organic matter which gives to the skin a slimy feel after coming out of the bath. On entering sea water at a temperature of 70° a momentary chill is experienced, which soon passes off. In the course of half an hour a second chill is felt, due to the gradual abstraction of the body heat. This persists as long as the individual remains in the water. In robust individuals, who leave the water before the occurrence of the second chill, sea-bathing may prove beneficial, but in feeble individuals, the sea-bath, as ordinarily taken, is apt to result in harm, mainly, he thought, through abstraction of the body heat by the water. The local effects upon the skin coincide with the general effects. In vigorous individuals psoriasis and chronic eczema will often be benefited by a short bath followed by rubbing. If the patient be feeble or the bath prolonged, the result will be unfavorable. Prickly heat, pruritic affections and furuncles are often benefited by sea-bathing. The principal precautions with reference to sea-bathing are not to go into the water when it is too cold and not to remain in it until the occurrence of the second chill.

The author had also experimented with artificial brine, varying in strength from 5% to 25%. When the percentage reaches 25%, the change can be detected by the feeling. If genuine sea-salt is used, the sticky, clammy feeling is apparent. If white salt is employed, there is a sensation of extreme cleanliness. A 5% solution, used as a bath at a temperature of 95%, and the immersion continued fifteen to twenty minutes, removes the bodily odors and exudations better than a bath with soap, and the body remain free from odor for a longer period than if soap has been used. The skin presents a condition of softness not seen after any other bath. A bath of a 20% to 25% salt solution had been also used with no irritating effect except upon the mucous membrane. In this strength of solution, the water does not seem to wet the skin but rolls off, leaving the body dry.

In acute eczema the use of ordinary water is as a rule followed by temporary aggravation of the trouble. In these cases a full bath of 0.5% to 1% solution had been used with great comfort to the patient. In subacute eczema, psoriasis, furuncles, in irritable summer rash, whether papular or pustular, and in ulcerating syphilides, a 5% solution of salt may be used with great advantage. The salt water should be used as hot as can be borne, the bath continued fifteen to twenty minutes, and should be taken just before retiring. Genuine sea-salt is not so good for the bath as coarse white salt, on account of the slimy feeling which is left. The therapeutic effects are identical.

DR. E. WIGGLESWORTH, of Boston. Was any effect upon the growth of the hair observed?

DR. PIFFARD. My observation in reference to this point is limited to my own person. I have, this summer, noticed an unusual growth of body-hair. Whether or not this was due to the daily use of a strong saline bath, I cannot say.

TWO CASES OF TYPICAL IMPETIGO SIMPLEX,

by DR. L. H. DUHRING, of Philadelphia.

Considerable skepticism exists concerning the existence of a distinct disease entitled to the name impetigo simplex. Impetigo is one of the rarest of cutaneous affections.

CASE I. A boy, aged four years, and well nourished, was brought to the author with the history that, two weeks previously, he had some itching, and this was followed by the appearance of white nodules. Shortly after this, pustules formed. They appeared a few at a time, lasted several days, and then dried up. At the time of observation, there existed about two dozen lesions upon the fingers, toes, and legs. These were typical pustules of the size of a split pea, raised about one line above the surface of the surrounding skin. They were seated upon bright-red, non-indurated bases. They were discrete, and manifested no tendency to group. Microscopical examination did not

reveal the presence of any micro-organisms in these lesions. The process ran its course in about three weeks, no local or internal treatment being employed.

Case II. A boy, aged four years, perfectly healthy, presented a discrete pustular eruption, which had appeared seven days previously. Twenty or thirty small pustules, with a slight areola, were found. They were most marked on the fingers and toes. The pustules had thick walls, and showed no tendency to rupture. There was no itching. The disease terminated in spontaneous cure in two or three weeks. The disease in neither of these cases appeared to be contagious.

A CASE OF PURPURA WITH CIRCINATE LESIONS,

by Dr. H. W. Stelwagon, of Philadelphia.

The patient, a strong and robust man, came under observation in April, 1887. The abdomen was found to be the seat of a macular, reddish-yellow eruption of annular form. The lesions were about the size of a dime. Most of them were almost completely annular in form. The eruption was most profuse on the anterior part of the trunk. The lesions were of a hæmorrhagic nature, there being no hyperæmia. The eruption had appeared as small white spots, three months previously, above the umbilicus, and had gradually extended. There were no subjective symptoms, and the general health was good. The case remained under observation for three weeks, and then was not seen for four months. The eruption had then almost disappeared. The whole duration of the case was about nine months.

So far as the author was aware, only one other case of this character had been reported, and that was put on record by Drs. Duhring and Harlingen.

The last paper was entitled

PROTEST AGAINST EXCESSIVE STRENGTH OF LOCAL APPLICATIONS (OFFICIAL AND OTHER) IN SKIN DISEASES,

by Dr. S. Sherwell, of Brooklyn.

(In the absence of the author, the paper was read by the Secretary.)

The author claimed that most of the local applications of the pharmacopœia were too strong to be used with safety. Instead of diluting these preparations, it is better to order a preparation of the desired strength, for after a preparation has been kept some time, it seems to become more irritating. Numerous illustrations of the views expressed in the paper were given.

The Society then adjourned.

[Special Report for the Journal.]

THE NINTH INTERNATIONAL MEDICAL CONGRESS.[1]

SECTION ON GENERAL SURGERY.

WEDNESDAY, THIRD DAY — AFTERNOON SESSION.

FISTULA IN ANO OF THE HORSE-SHOE VARIETY,

by Samuel Benson, M.D., of London, Eng.

The objects of this paper, as stated by the author, were, first, to point out that an important cause of the failure of the operative treatment of anal fissure is the presence of a coexistent horse-shoe fistula, left unrecognized and untreated. Second, to define what is meant by a horse-shoe fistula, and to comment upon the different kinds of horse-shoe or semi-circular fistulæ met with in practice.

Fissure is such a common complaint, that, doubtless, cases have come under the notice of all present. This malady, if taken early, is very amenable to medicinal treatment; but in many cases, especially in females, the disease is allowed to progress for some length of time before it is brought to the notice of the surgeon, and some operative treatment then becomes necessary. There is a form of fistula, horse-shoe or semi-circular in shape; namely, the blind, internal, horse-shoe fistula, which, though far more common than the complete horse-shoe fistula, is not referred to in any books that I have consulted. Some writers mention the blind, internal fistula which commences in an abscess, but the fistula referred to by the speaker does not commence with an abscess. It is merely a subcutaneous ulceration, extending between, and separating the mucous from the muscular coat of the bowel, just inside the anus, and usually commences in a fissure that has been of some months' duration. A fissure that has been neglected, or treated alternately by caustics and emollient ointments, soon drifts on to the formation of a painful rectal ulcer, with its base of an ashy-gray appearance, and the edges of the sore well marked.

While forcibly dilating the sphincter, it is quite possible that the mucous membrane may sometimes be torn from the sphincter muscle, especially around the parts near the anal ulcer, and a sinus made traumatically. Therefore, when the patient is under an anæsthetic, the examination with a blunt-pointed probe should be made at the base and sides of the fissure before the sphincter ani is interfered with. A blind, internal fistula can then sometimes be demonstrated.

Horse-shoe fistulæ, as at present understood, are complete fistulæ, the external opening being situated on the opposite side of the bowel to the internal opening. This kind of fistula is rare, having been found five times in 750 cases of rectal disease.

From these cases, we gather that fistula in ano of the horse-shoe shape may be complete or incomplete. Horse-shoe fistula may be complicated with prolapsus. The most usual complication is anal ulcer. Sometimes polypus is also found. The average age of the patient is thirty-five years, males and females being attacked indiscriminately. The average number of days in bed is fourteen. If a correct diagnosis is made, the treatment consists in laying open the sinus, and paring the edges with scissors, dividing or paralyzing the sphincter muscle, and packing it systematically with cotton-wool, to prevent the edges sticking together, and getting the wound to heal from the bottom.

A paper by Arthur Trehune Norton, F.R.C.S., London, England, was then read by the Secretary, in the absence of the author. It was entitled,

REMARKS ON RODENT ULCER OF THE RECTUM,

in which the author declares that there is an ulcer of the rectum, persistent, unyielding to treatment, advancing to complete stricture of the rectum and usually appearing after thirty years of age.

The ulcer begins immediately within the anus, after a time extending and completely surrounding the rectum; it is accompanied by a pain which is not usually

[1] Continued from page 268.

severe, and as it extends up the rectum constriction takes place with all the signs of stricture. Treatment by dilatation sometimes relieves for a time.

From the clinical features of the disease and the microscopical characters, the author was of the opinion that the disease was identical with rodent ulcer and suggested that further investigation into its pathology be made.

The discussion which followed related to the treatment of fistulæ in general, and was participated in by Dr. Foster, of Bieracth, Syria, Dr. Quimby, of Jersey City, and Dr. Grant (Bey) of Egypt, who all related cases and agreed as to the proper method of treatment.

DR. GRANT (BEY), then read a paper entitled,

REPORT OF SOME CASES OF LIVER ABSCESS AND THEIR TREATMENT,

in which he gave as his deduction from the result of the cases the opinion that in all cases of liver abscess we should first aspirate the abscess and if that was not followed by cure then lay the abscess open, by a free incision and in extreme cases excise a portion of the ribs (one or more) over the site of the abscess so that free access might be had for clearing out the abscess cavity thoroughly with antiseptics.

In the discussion which followed, Dr. Winslow, of Baltimore, Dr. Pascal, of Mexico, and Dr. Moore took part, and while all agreed as to the principle of treatment, each had his own particular way of arriving at the same result.

DR. LEWIS H. SAYRE then followed with a paper on

THE TREATMENT OF PSOAS ABSCESS BY POSTERIOR LUMBAR INCISION,

in which the author strongly insisted on the early and free posterior and anterior incision in these abscesses, and this to be followed by thorough drainage.

DR. EDWARD OWEN, of London, opened the discussion which followed and spoke long and earnestly, strongly deprecating "ostrich surgery" in these cases, and advising early opening of the abscess with free drainage.

DR. SPRENGLE, of Dresden, thought that in many cases there would be absorption of the pus if we waited for it, and if we opened the abscess it was best to do it with an aspirator or fine trocar.

DR. LANGE spoke of the constitutional treatment, along with the surgical, and thought that he would not open these abscesses if he could avoid it, until after the acute stage had passed.

DR. CHAVASSE, of Birmingham, England, thought it best to open these abscesses as soon as possible, and give the sufferers a chance.

A paper on

THE REMOVAL OF SEQUESTRA BY SOLUTION IN ACID,

by DR. EDMUND ANDREWS, of Chicago, was then read, in which the author gave his experiments in detail, and related a number of cases in which the sequestra had been removed by the use of acids without operation. He recommends that hydrochloric acid be used of a strength a little weaker than the official dilute acid.

FOURTH DAY, THURSDAY, SEPTEMBER 8TH.
MORNING SESSION.

The first business of the meeting was the discussion of the paper of DR. RICHARDSON, read on Wednesday.

GASTROTOMY FOR FOREIGN BODIES IN THE ŒSOPHAGUS.

DR. BURNEY, of St. Louis. I have had a somewhat similar case to that reported. A tailor swallowed an ordinary silver case-knife, which passed into the stomach. I saw him one hour after the accident and performed gastrotomy. The incision was made in the linea alba. The knife was found lying transversely with the handle towards the pylorus. A short incision was made, the knife removed and the opening in the stomach closed with a double row of sutures. I think that in such cases the continued suture is to be condemned.

Next came the discussion on DR. DENNIS' paper on

AMPUTATION OF THE HIP.

DR. DONALD MACLAIN, of Detroit. An important practical point is with reference to the method of restraining hæmorrhage. The mortality in olden times was largely due to the defective measures of controlling bleeding. The method described by Dr. Dennis seems open to the objection that the elastic band might slip, when the operation was delayed. I have amputated the hip a number of times and have had the utmost satisfaction from the use of Lister's abdominal compressor. I believe that this is superior to any other method for controlling hæmorrhage in this region. If the compressor is not at hand the fists of an assistant will answer the purpose, the compression being made on the umbilicus.

DR. WEEKS, of Portland, Maine. I have employed an elastic compressor consisting of the ordinary black rubber bandage, doubled so as to make four strands ten feet in length. This is passed between the thighs, brought between the tuberosity of the ischium and the rectum, and up in front over the femoral artery. An ordinary roller bandage is placed over the artery. The ends are brought over in front and held by an assistant. This also controls hæmorrhage from the gluteal vessels.

DR. GUNN, of Missouri. I understood the author to state that he did not know of a case of sarcoma of femur which was alive one year after operation; I assisted at an operation on a case of sarcoma on the lower third of the thigh. Eighteen months later the patient was living and healthy.

DR. REYHER, of St. Petersburg. I think that in emaciated subjects it would not be advisable to make such sudden compression as is caused by Lister's compressor. I have used the rubber tourniquet but without special satisfaction. I have performed another operation. I make an excision in the head of the bone; I then place a stick through the wound and another in front, securing them together by rubber bands. The same thing is done with the posterior portion. The flaps can then be cut without hæmorrhage. In three operations I have had no disagreeable results from this measure.

DR. W. BOONE, of Shanghai, China. No one has alluded to the method proposed by Dr. Furnell Jordan. Where there is sufficient tissue free from disease, this seems to present many advantages. This operation is performed by making a circular cut through the muscles low down, making a flap and then turning back the flap. The bone is next divided. An excis-

ion of the head is next made. In this way you cut the vessels low down and the control of bleeding is absolute.

Dr. Palmer, of Jonesville, Wis. I have used a method similar to that of Dr. Reyher. Instead of sticks, I have passed pins of sharpened steel wire through the limb in front and behind the bone and then securing them to other pieces in front of and behind the limb.

Dr. Chavasse, of Birmingham, England. In amputating for malignant disease, the less tissue left the better. Therefore the operation of Mr. Furnell Jordan is not a good one for this particular disease. The best method is that known as Brodie's operation by anterior and posterior skin flap. In children the best plan for controlling hæmorrhage is by digital compressor. This is also applicable in thin subjects. I have also used Dary's rectal staff with satisfaction.

IODOL,

by Dr. Assaky, of Bucharest, Roumania. The conclusions of this paper were as follows:

(1) Wounds unite under iodol by first intention. This union, however, being the result of various and complex conditions attending operation, it is not possible to attribute to iodol alone the absence of suppuration and inflammatory conditions. In wounds which gape and suppurate iodol is an excellent antiseptic. It rapidly retards suppuration, renders it inodorous, reduces the frequency of dressing, and hastens considerably cicatrization. In ulcerating or gangrenous wounds iodol aids to resist the destructive process and changes the wound, after a variable time, to a healthy granulating condition. This action of l'iodol extends itself to hard chancres. In case of soft chancres the result is variable. Sometimes it transforms them into a simple wound with brief delay; at others it is insufficient for this purpose, and it becomes necessary to employ in addition, locally, antiseptic lotions. The same is true with reference to open venereal bubos of the groin. The powdered iodol has this advantage over iodoform, that it is free from odor and is not toxic in its effects.

(2) Doses of iodol of from 0.40 centigrammes to 2. grammes daily, produce no functional trouble, even if continued a long time. These doses give marvelous results in tertiary syphilis, and in scrofulous affections. In the secondary stage of syphilis, taken internally, it rapidly destroys the syphilitic manifestations. Iodol seems to aid the general nutrition and increase strength and flesh. It is indicated in all cases of specific malnutrition.

Iodol is an antipyretic. In acute infectious diseases, such as erysipelas, etc., it causes a rapid fall of temperature.

PARACENTESIS OF THE ARTICULATION IN THE EARLY STAGES OF DISEASES OF THE HIP-JOINT,

by Mr. Edmund Owen, F.R.C.S., of London, England.

It is generally admitted that the sero-synovial effusion, associated with early acute disease of the hip-joint has an influence on the stiffening and faulty position of the limb. In these cases examination will usually show a deep-seated fulness below the middle of Poupart's ligament, which advances the femoral vessels towards the surface. There is also swelling behind and between the great trochanter and the tuberosity of the ischium. An illustrative case was given. A boy, nine years of age, was admitted to St. Mary's Hospital, London, on account of extreme pain in the right hip and knee. The limb was semi-flexed, and the foot slightly everted. The attempt to bring the limb down, caused tilting of the pelvis and arching of the loins. There were all the signs usually regarded as indicating the first stage of hip-joint disease. There was slight fulness in the positions indicated. The pain had come on suddenly two weeks previous in a child apparently healthy. Chloroform was administered, but the leg remained stiff. A trocar and canula were passed through the back of the capsule, and a teaspoonful of sero-purulent fluid, containing flakes of lymph was withdrawn. The femur could then be extended and the joint was loosened. An extension apparatus was applied, and the patient was perfectly at rest. On the fourth day he was free from pain. The convalescence ran a perfect course, terminating in recovery in two weeks.

It may be said that this was not a case of hip-joint disease, but one of simple synovitis. This was admitted, but if the capsule had not been tapped, there might have developed suppurative arthritis. If this is admitted, the author claimed that potential hip-joint disease might be cured by paracentesis.

We should always be on the lookout for this condition. Where we cannot be absolutely certain that there is distension, we should give the patient the benefit of the doubt, and perform exploratory puncture. This, if done with clean instruments and ordinary care, is devoid of risk.

DISCUSSION.

Dr. L. H. Sayre, of New York. I believe that the case which he relates, if allowed to go on, would probably have ended in rupture of the capsule and perhaps destruction of the head of the bone. In the early stage of the disease when the limb is flexed, everted and abducted, as a result of over-distension of the capsular ligament, if the fluid is not absorbed by rest and counter-irritation, it is proper to puncture the joint, thus treating the hip-joint the same as any other joint.

Dr. G. W. Boone, of Shanghai, China. I think that it is well to report what we can in this connection. Two years ago my attention was called to the injection of joints with glycerine and iodoform. This I used in a number of joints. I used it in two cases where there were evidences of the first stage of hip-joint disease. In one case the symptoms disappeared, while in the other, the case ran the ordinary course of a case of hip-joint disease.

Dr. Lange, of New York. In the case reported, the child probably had tubercular disease near the hip-joint which ruptured into the joint causing effusion. In such cases the painful symptoms can be relieved by tapping the joint. To regard this as an effective treatment for hip-joint disease which must be regarded in children as essentially a tubercular affection, seems hardly proper. This case is not concluded, and we do not know what the final result will be.

Dr. Owen. This was not a case of tubercular process in the joint. The attack began two weeks before admission, was an acute effusion, and recovered within two weeks after operation. Tuberculosis does not run this course.

Next in order was the discussion on the paper of DR. GARMANY,

ON TREPHINING FOR EPILEPSY,

read on Wednesday.

DR. BURNEY, of St. Louis. I have had one case of epilepsy and mania, for which I trephined. There was a clear history of injury to the head. The skull had been trephined without good effect. I also performed trephining. When the bone was removed, the dura mater came up into the opening. This I incised and at once there was an enormous flow of cerebro-spinal fluid. I introduced four catgut sutures to close the opening in the dura mater. The patient recovered, but there was no immediate improvement, although since then there has been some lessening of the number of the seizures.

(To be continued.)

AMERICAN GYNÆCOLOGICAL SOCIETY.

TWELFTH ANNUAL MEETING.

THE Twelfth Annual Meeting of the American Gynæcological Society was held in the hall of the Academy of Medicine, New York, September 13, 14 and 15, 1887.

FIRST DAY— TUESDAY, SEPTEMBER 13TH.

MORNING SESSION.

The Society was called to order by the President, DR. A. J. C. SKENE, of Brooklyn. After the calling of the roll the

ADDRESS OF WELCOME.

was delivered by DR. FORDYCE BARKER, of New York.

MR. PRESIDENT, Fellows of the American Gynæcological Society, and friends who honor us with their presence: The pleasing duty has been assigned me to welcome you in behalf of the Resident Fellows of New York and Brooklyn, and in behalf of the Academy of Medicine.

Our Society is organized for mutual edification and not for mutual admiration. I therefore resist the temptation to congratulate ourselves on the good work that we have accomplished in these eleven years. It is conceded that in no department of medicine has there been a more rapid growth. It may be asserted that both talent and genius have been developed and consecrated to these departments. I remember to have met this terse distinction between talent and genius: "To do easily what others do with difficulty, that is talent, to do what talent cannot do, that is genius."

Talent and genius are both original endowments and are, therefore, not qualities of which to boast, but I feel warranted in referring to the success of our Society in one of its aspects.

Our discussions have not been wanting in sharp criticism, but not in a single instance has there been in our discussions anything bearing the semblance of personal rancour. Neither has the time of our meetings been wasted in listening to profitless and wearisome discussions of personal claim to priority.

Many of you, our distinguished foreign guests, are known to many of us personally. All of you are well known to all of us by the good work that you have done. We give you a warm welcome with the anticipation that the interests of this meeting will be largely enhanced by your participation in its work.

In accepting the honorable duty assigned to me, I have felt it incumbent on me to bear two things in mind: First, that the duty is specific, simply to welcome the Society and its guests; second, that this welcome should be as short as possible, so that no time be lost for our scientific work.

It therefore only remains for me to congratulate you, Mr. President, that you have the honor to preside over such a body, and to congratulate the Society that it has you as its presiding officer.

A STUDY OF THE CAUSES AND TREATMENT OF UTERINE DISPLACEMENTS,

by DR. THOMAS ADDIS EMMET, of New York.

The mere version cannot be regarded as the disease in those cases in which it is found. It is but a symptom. The degree of prolapse or elevation of the uterus below or above a certain line causes the symptoms. If we examine a woman suffering with prolapse, the pulsation of some branch of the cervical artery can be readily detected. When the uterus is raised to the health line a sense of relief is felt, and if it be held there for a few minutes the pulsation ceases. If, however, the uterus is raised beyond this point distress is again experienced. Anteversion is certainly not an abnormal position. Retroversion to a marked degree is frequently detected through accident where it has not given rise to the least inconvenience. Many years ago the author had shown that the most reliable means of relieving the symptoms due to anteversion, where the displacement was not due to inflammation, was a retroversion pessary with a long posterior curve. This acts by raising the neck and the body, more or less.

With reference to the causes, the speaker remarked that he would not take time to speak of the more common causes with which all were familiar, but he wished to refer to the influence of pelvic inflammation in inducing displacement. The only fixed point is in front of the neck of the bladder, where the subpubic ligament binds down the urethra. Any traction on this point leads to irritation and a desire to empty the bladder. This often results from inflammatory adhesions. The uterus may be retroflexed or anteflexed, but the traction will be upon the urethra. Prolapse is the more usual consequence of pelvic inflammation, resulting from the increased weight due to the obstructed circulation. The degree of displacement is usually in proportion to the extent of the cellulitis. The effect of peritonitis involving Douglas's cul-de-sac is to raise the uterus, while versions always result from pelvic cellulitis. In cases where the inflammation is confined to the utero-sacral ligaments there will be anteversion.

In a case of backward displacement, the uterus is usually comparatively free so that the displacement can be corrected with the finger. If the organ be held in what is supposed to be its correct position, pulsation will soon be detected in some of the neighboring vessels. If a pessary be introduced under these circumstances, it will soon be necessary to remove it. In extreme anteversion the displacement cannot be corrected by means of any instrument without making traction upon the utero-sacral ligaments, and if this is done inflammation will be the result. In the treatment

of cases of displacement the result of inflammation, the general practitioner should not resort to pessaries, but should, if treatment is necessary, apply iodine, use cotton and glycerine pads, and order hot water injections.

The pelvic circulation presents certain pecularities. In no other part of the body can so much blood be received in cases of disease. The veins are without valves and their course must be tortuous in order to overcome the force of gravity. The author had observed that if the uterus be drawn down to the floor of the pelvis and held there, the cervix and vaginal tissue become congested as the result of obstruction of the venous circulation. If, however, the traction be increased until complete procidentia is induced, the tissues become blanched as a result of the narrowing of the arteries from the traction. The relations between the pelvic tissue and the circulation were then referred to.

The whole skill in the use of the pessary consists in constructing it of such size and shape that while it relieves the prolapse it will just dispose of the overstretching. The relief is not dependent entirely upon relief of the version. Its effect is indirect, consisting in the relief of congestion. The speaker had also used cotton saturated with glycerine to lift the uterus. The quantity used was never more than sufficient to correct the prolapse. If a large quantity is employed, it is liable to cause irritation. The profitable range for the use of pessaries is not extensive. If not employed with great caution and judgment, the effects to the patient may be very serious. He believed that nothing can take the place of pessaries when properly fitted and used in the proper class of cases. He thought that their field of usefulness was more limited than is generally supposed. The displacement should not be corrected on its own account until the history of the case has been ascertained. No attempt should be made to correct the displacement so long as any evidences of recent inflammation are present. In tracing the histories of a large number of women, no instance of permanent cure has been found from the use of pessaries, in cases where there was reason to believe that previous inflammation had complicated the case.

DISCUSSION.

Dr. Graily Hewitt, of London. The subject of displacements of the uterus has occupied my attention for a considerable period. The conclusions advanced are such as in a general way I should agree to. There seems to be a difference between American and English women with reference to the frequency of cellulitis. I have not found this complication in a large number of cases of uterine displacements. In regard to the causes of uterine displacement, it seems to me that Dr. Emmet has limited himself almost entirely to the effects of inflammation. I think that the question of the general causes of displacement are very important. The speaker has attributed the sufferings of the patient to pressure by exudation. He has not alluded to a point which I consider important, and that is, that the flexure in the uterus interferes with the circulation and causes pressure upon the nerves. To this cause I would attribute a large part of the pain. Simple straightening of the uterus relieves the discomfort. In cases of acute flexion when the sound has been used in the treatment, I have observed that when the instrument reaches the internal os, this part is found excessively sensitive. By completing the introduction and straightening the uterus, the tenderness disappears within twenty-four hours and does not return.

There is something more to be said with reference to the use of pessaries when there is pelvic cellulitis. I agree that pessaries should not be used if there is acute congestion present. I think that there may be cases in which there is contraction and hardness associated with displacement in which pessaries may be very valuable in leading to absorption of the exudation. The pessary must of course be fitted carefully and properly applied.

Prof. A. R. Simpson, of Edinburgh. The last speaker has suggested that there must be a difference between the females of America and of England with reference to pelvic cellulitis. I think, however, that the difference is more with the mind of the individual who examines these cases. The same woman going to several different observers might get a different opinion from each. One, looking at the general aspects of the case, might consider it a neurosis, while another, looking at the local conditions would regard it as a case of uterine displacement.

I agree with Dr. Hewitt that the author has not taken a very large view of uterine displacements. He seemed to confine himself to the results of inflammation and to displacements occurring in women who have had children. We also have displacements in women who have been married two or three years and have not conceived. In some of these cases we have inflammation, and this is not to be overlooked. Even after we have done all that we could in the way of relieving the inflammation, it is necessary to put the uterus in proper position to fit it for impregnation.

Dr. G. Bantock, of London. I am unable to agree with the author with reference to the frequency of pelvic inflammation. I think that perhaps the best explanation is the one given by the last speaker. I believe that experience is teaching us that pelvic inflammation is less common than we have generally supposed. Many of the cases regarded as pelvic cellulitis have been instances where the inflammation was confined to the Fallopian tube or the peritoneum lining Douglas's cul-de-sac, and especially the peritoneum covering the Fallopian tube.

I have not seen the utility of paying so much attention to the causes of displacement. In a case of a broken arm we do not inquire particularly as to the exact manner in which the injury was received, so in cases of displacement of the uterus, I do not trouble myself with regard to the cause of the trouble. The patient comes to be relieved and I proceed to relieve her as best I can. My experience is, that in the majority of cases perfect and permanent relief can be afforded by the proper use of the pessary. The proper adjustment of the instrument is the whole secret. After confinement where there is retroversion, I recommend, where the uterus is not adherent, replacement by the sound and a pessary properly applied. Where there is much tenderness it is not desirable to at once apply the pessary, but the congestion should first be relieved. Where adhesions have formed the use of the pessary must be set aside altogether.

I recall one case which I saw with Dr. J. Marion Sims, where there was well-marked retroversion. There was also supposed to be disease of the appen-

dages, and the patient was sent to me for operation. While it was possible to replace the uterus with the sound, it at once resumed its former position, when the sound was withdrawn. The abdomen was opened and it was found that there were adhesions between the fundus of the uterus and the lower portion of the pelvis. These adhesions were divided, and the result was a perfect cure.

DR. T. A. EMMET, of New York. The causes of displacement of the uterus are many, and most of them are well known. My object was to call particular attention to one class of cases which are overlooked, and which are complicated with inflammatory troubles, which will not be discovered unless an examination by the rectum is made. This is the reason there is such a diversity of opinion.

There is no one who uses pessaries more than I do, and in the majority of cases pessaries should be used and nothing else can be used, but there is a class of cases in which the use of pessaries is improper.

As regards the frequency of pelvic inflammation, I believe that it is less common abroad than in America. Our young women go into society earlier, and they contract pelvic inflammation as a result of imprudence in dress. I have found the effects of pelvic inflammation more commonly among the unmarried than among the married. The sterility which follows may perhaps be attributed to displacement of the fimbriated extremity of the Fallopian tube, and not so much to occlusion of the tube.

CYSTOCOLPOCELE COMPLICATING LABOR AND PREGNANCY,

by DR. SAMUEL C. BUSEY, of Washington.

This term is applied to the prolapse of the bladder into the vaginal passage. The prolapse may be partial or complete. It may occur anteriorly or laterally. It is well known that distension of the bladder frequently complicates labor, but the subject of cystocolpocele has not received much attention. It is a rare accident, and, when present, often overlooked. The author had been able to find six reported cases of cystocolpocele complicating pregnancy. Where the distended bladder can be detected externally, there is no difficulty, but where the prolapse is into the vagina, many of the cases are doubtless regarded as cases of threatened abortion. The speaker reported the following case occurring in his practice:

November 24, 1886, he was called to see a woman in the ninth month of pregnancy. It was thought that labor had commenced. The pains occurred at short intervals. The finger in the vagina at once came in contact with a distended pouch. The os could not be felt, and no presenting part could be discovered. It was learned that no urine had been passed since the previous day. With the fingers of one hand in the vagina, while percussion was made above the pubes, distinct pulsation was observed. It was then concluded that the case was one of distended bladder, prolapsed into the vagina. The patient was then assisted by the nurse to the commode, and passed a large quantity of urine. The tumor at once disappeared, the cervix could be reached, and labor had not begun. In this case, vesical tenesmus was not present.

The histories of the other five recorded cases were given in abstract.

Cases of cystocolpocele complicating labor, although rare, are more numerous than cases of the same condition complicating pregnancy. The author had found thirty-seven such cases recorded. Mistakes in diagnosis have often been made, and on several occasions, the bladder has been punctured, under the impression that it was the amniotic sac.

The cause of this affection is not known. It occurs in multiparous women who have to work hard. In most of the cases there has been presentation of the head. The condition is usually accompanied with pains somewhat like those of labor, but unaccompanied with any progress towards expulsion of the fœtus. In some cases there is complete retention of urine, with frequent desire to empty the bladder. More frequently, there is a scanty discharge of urine, with vesical tenesmus. If the prolapse is partial and the organ empty, a firm, hard mass, marked with rigor, will be found. If the bladder is completely prolapsed, or partially or incompletely filled with urine, there is an absence of internal serum above the pubes, and a tumor will be felt in the vagina, completely closing the vaginal canal. The finger can be swept over the lateral and anterior portions of the tumor, but not in front. Where the prolapse is anterior, labor cannot be completed until the urine is removed. The only certain sign of this affection is the discharge of urine through the urethra, and the subsidence of the swelling.

DISCUSSION.

DR. WILLIAM GOODELL, of Philadelphia. I have met with two cases of this condition: one a few days before labor, and the other during labor. In the first case, the nurse sent for me on account of peculiar symptoms. I found a body as large as the child's head, and as hard. There was severe vesical tenesmus. I could not pass the finger behind the tumor, and there was no evidence of an os uteri. Further examination showed the swelling to be due to the distended bladder. A catheter was readily introduced, and relieved the swelling. There was no return of the trouble. The other example of this condition occurred in a case of antero-posterior contraction of the pelvis. The pain was very great, but the cause of the difficulty was soon recognized. I found it impossible to introduce either the soft or the metallic catheter. I put on the forceps, and raised the head so that the catheter could be passed in. The labor was then completed with the forceps.

This condition is more apt to occur when the conjugate diameter is narrowed. In this case, the head plays on the brim of the pelvis before it enters, and any sudden contraction of the abdominal walls may cause a portion of the bladder to come down between the head and the pubes. After fixation of the head occurs, its onward movement tends to carry the bladder with it.

Adjourned.

(To be continued.)

— By the will of the late B. F. Caldwell, the Concord (N. H.) Hospital will receive $5,000.

— A Western lay contemporary suggests an important therapeutico-commercial truth in the following colloquy: "To what do you attribute the curative properties of your springs?" asked a visitor at a health resort. — "Well," answered the proprietor thoughtfully, "I guess the advertising I've done has had something to do with it."

THE BOSTON

Medical and Surgical Journal.

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ANTIFEBRINE AS AN ANALGESIC.

In a lecture recently delivered in Cochin Hospital,[1] Dujardin-Beaumetz set forth a property of antifebrine — more correctly called acetanilide — which it possesses in common with antifebrine; namely, that of antagonizing pain. He calls attention to the fact that such of the new antithermics as cause a fall of temperature by a direct and special action on the thermic centres of the spinal cord would, *à priori*, seem likely to be beneficial in affections of the nervous system that are unattended with fever, and their theoretical prevision has been substantiated by recent clinical experimentation. Thus salicylic acid has become an analgesic, and has been employed with success in neuralgias, and even in tabes dorsalis, and antipyrine has proved itself to be an anodyne of the first order; and, according to Professor Germain Sée, likely to supersede morphia as a remedy for subcutaneous injections in painful affections. Professor Sée injects seven-and-one-half grains, dissolved in a hypodermic syringeful of water, and repeats the injection three or four times in the twenty-four hours. He finds antipyrine thus administered to be unirritating, and no less efficacious in subduing the pain than morphia.[2]

Acetanilide was discovered by Gerhardt, in 1835, by acting on a phenylamine with chloride of acetyl. It was, however, only a year ago that it began to come into use as a medicine, when, in consequence of its manifest antithermic property, it was named antifebrine by Drs. Cohn and Hepp, of Strasbourg. Shortly afterward, Lépine, of Lyons, experimenting with acetanilide in apyretic maladies, found out its analgesic properties; and Dujardin-Beaumetz, taking a hint from the results obtained by Lépine, tried it, with signal success, in nervous disorders in Cochin Hospital.

This clinical experimenter has employed acetanilide in combatting three orders of phenomena: the element of pain in general, then the special pains of locomotor ataxia, and lastly, epilepsy.

Under the first head, he remarks that acetanilide has proved itself inferior to aconitia in the treatment of facial neuralgia; but when the cephalic pains are linked to nerve alterations, as, for instance, in certain cases of neuritis of the nerves of the orbit, acetanilide has been found to be superior to any other remedy. He cites the case of a patient who had suffered long and intensely from cephalic and periorbital pains, which, for months, had resisted aconite, bromide, and iodide of potassium, and which completely disappeared under twenty-grain doses of acetanilide. He has also obtained good results from acetanilide in the pains of acute rheumatism, myalgia, and various pains of neuralgia.

These results have been confirmed by Demieville, of Lausanne, who has shown that relief begins to be experienced very soon — often in a quarter-of-an-hour, though generally not till one or two hours, after the administration of the acetanilide. Demieville also ascribes to the new remedy marked somniferous qualities. In sciatica and in intercostal neuralgia, its analgesic effects have been most marked.[3]

In the lightning pains of locomotor ataxia, Dujardin-Beaumetz has obtained great benefit from acetanilide, complete relief following full doses; and like success in the treatment of these formidable pains by the same remedy has been claimed by Dr. Signé, of Montpelier. Beaumetz, however, records the fact that the relief obtained is not lasting, that the anodyne effect of the remedy in tabes dorsalis, though administered every day, is soon exhausted, lasting only about a fortnight. Fischer, moreover, has reported ten cases of ataxia in which the *douleurs fulgurantes* were treated by acetanilide. Nine were markedly benefited.

In several cases of epilepsy in which the Cochin Hospital chief made trials of acetanilide, amelioration was experienced, the convulsive crisis being lessened. In one case, that of a child twelve years of age, the improvement was most striking. Bromide of potassium had been given without any decisive results, and was finally suspended, on account of bromism. Acetanilide was then given in doses of seven-and-one-half grains, three times a day. Three months had elapsed since this treatment was instituted, and during that time the child has been quite free from epileptic attacks. Other clinical authorities, however, have tried acetanilide in epilepsy without success (Faure, Jolly, Salm).

Acetanilide is insoluble in water, but soluble in wine, in which it may be conveniently administered. As an analgesic, it should be given in doses of seven or eight grains, two, three, or four times a day.

The tests of the purity of this drug are given by Yvon as follows: "It should be odorless; it should be perfectly white. Heated on a platinum-foil, it should give a colorless liquid. Thus heated, it should be completely volatilized, and should leave no residue. Treated with hypobromite of soda, it should not give an orange-yellow precipitate."

[1] Bull. Gen. de Thér., August 15, 1887.
[2] Bull. et Mem. de la Soc. de Thér., June 15, 1887.

[3] Demieville. On Antifebrine as a Nervine (Revue Méd. de la Suisse romande, June 15, 1887). (Cited in the Bulletin de Thérapeutique, August 15th.)

JOHN HUNTER AS A SYPHILOGRAPHER.

AT the time when John Hunter's work on Venereal appeared, he was at the height of his fame, and the book upon which he was known to have spent so much labor, attracted universal attention. Appearing in 1786 it was followed the next year by a French and a German translation. In 1788, the second English edition was published, and 1791 the first American. Other editions in English, French and German followed at various intervals up to 1859, with prefaces and notes by distinguished syphilographers, until it can be said that no work on Venereal before or since Hunter has ever met so distinguished a reception.

A new era began with Hunter and he is regarded even yet, as one of the most noted syphilographers in medical history.

One error he is universally known to have taught, that of the identity of gonorrhœa and syphilis, but it is a little startling to see the era inaugurated by Hunter characterized as one of deterioration and most fearful mistakes. Such is the characterization of his teaching as expressed in an article in the *Vierteljahrschrift fur Dermatologie und Syphilis*, by Proksch, of Vienna. The description is intended to apply only to his work on syphilis and not at all to his labors in other fields. Hunter's treatise on Venereal is the result of his own observation, and is written with but little acquaintance with the then existing literature, and one of the interesting points in the article to which we refer, is found in the reference to errors of Hunter's which he might have avoided by a knowledge of previous writers.

In Hunter's time the distinction between gonorrhœa and syphilis was already recognized, but in 1767 Hunter undertook his well-known but unfortunate experiment of inoculating pus from a urethral discharge upon healthy skin, a chancre, followed by constitutional syphilis, was the result, and Hunter accordingly taught that the contagium of gonorrhœa and syphilis were identical. This doctrine, in spite of many attacks based upon many negative experiments was held by the majority of physicians for a half century, or until it was overthrown by Ricord.

Previous to Hunter's publication there was much debate as to the possibility of inoculating the disease by kisses, the use of drinking-cups and instruments, and by the hands of physicians and midwifes, and it was held that the secretions of secondary affections and the blood must carry the contagium. Hunter attempted to throw light upon the subject by experiment; and he inoculated various syphilitic individuals with the secretions of their own sores with negative results, while from inoculation from chancres on syphilitics he claimed to have produced chancres, and he drew the inference that the secretions of secondary affections are not inoculable even upon the healthy, and consequently he doubted or denied all the cases in which infection takes place through the blood or normal and pathological secretions. The transmission of syphilis to offspring, Hunter seems also to have doubted, though he describes clearly a most interesting family history in the chapter on "Diseases resembling the Lues Venerea."

In regard to syphilitic disease of interior organs, Hunter said, "we have not seen the brain affected, nor the heart, stomach, liver, kidneys, nor other viscera; although such cases are described by authors," an expression of opinion which served to banish all reference to internal syphilis from the text-books and from men's minds, for a half-century, until the advance in pathological anatomy again brought it to light.

Syphilitic ophthalmias were also denied by Hunter, although recognized by older syphilographers, because the so-called syphilitic symptoms in the eye were more painful than other syphilitic manifestations, and because the ophthalmic lesions never resulted in suppuration.

Even the honor of first describing the induration of the initial lesion is not rightfully ascribed to Hunter. In 1779, John Andree described the indurated chancre in language quite as striking as Hunter's and the induration is plainly, though not so fully, mentioned by previous writers from Fallopius down.

A GRATEFUL PATIENT'S ESTIMATE OF THE PROFESSION.

WE have all been taught from our early years that it would be greatly to our advantage to see ourselves as others see us, but the advantage was supposed to consist in the better view of our own faults which might enable us to free ourselves from follies which are very prominent to the eyes of our neighbors. Whether equal advantage arises from a similar outside view of our virtues may be doubtful, but it is very certainly a pleasure to feel that we are seen as we would *like* to be seen, especially if the one who sees us and tells what he sees, has in other matters shown himself to be a person of sound judgment. Robert Louis Stevenson, the clever writer who is known to us as the author of the "New Arabian Nights," "Dr. Jekyll and Mr. Hyde," "Kidnapped," and lately as the graceful critic and essayist in "Men and Books," as well as a charming and original maker of verses, has undertaken in the preface to his latest volume "Underwoods," to answer the question, who are "the men and classes of men who, either as a rule or under some more or less exceptional circumstances, may be said to stand above the common herd." Stevenson enumerates the soldier, the sailor, the shepherd not infrequently; the artist rarely; more rarely still the clergyman; the physician, almost as a rule.

"He," the writer claims, "is the flower (such as it is) of our civilization — the possessor of generosity such as is possible to those who practice an art, never to those who drive a trade; of discretion tested by a hundred secrets; tact tried in a thousand embarrassments, and what are more important, Heraclean cheerfulness and courage. So it is that he brings air and

cheer into the sick room, and often enough, though not so often as he wishes, brings healing."

Mr. Stevenson, it will be remembered, has not led the life of a recluse, but has been an extensive traveller, is apparently well acquainted with men and things, and has "enjoyed" much of many physicians within a range from San Francisco to Montpelier, and Bournemouth to Davos Platz. He considers himself under special obligation to eleven physicians, but states they are only a few out of many who have brought him "comfort and help."

It might be thought that we of the guild, on reading this high praise, might be in danger of making "broad our phalacteries" to an alarming extent, and thanking God we are not as other men are. We do not, however, suppose that Mr. Stevenson meant to imply that every practitioner of the healing art was a flower such as it is of civilization. Perhaps he may not be justified in drawing his conclusions from even his unusually large experience.

If any man feels himself in danger of being puffed up by such praise, he need only look up the articles published, about six years ago, in England, to feel that some, at least, there are who see another side to the profession. But surely, the profession has had a training which must make its members, to a certain extent, indifferent alike to praise and blame, for, indeed, no class of men are praised and blamed so indiscriminately.

There are, we are glad to know, in the ranks of the profession not a few who deserve all the praise contained in the sentences quoted; if others are conscious that Mr. Stevenson's estimate, as applied to them, is exaggerated, it may prove, at least, a stimulus to cultivate the qualities with the possession of which his active imagination has too gratefully endowed them.

SMALL PARKS AS BREATHING SPACES.

By a wise act of the New York Legislature at its last session, provision was made for establishing new small parks, from time to time, in various parts of the city below One Hundred and Fifty-Fifth Street, and last week, at the Mayor's office, there was held a meeting of the Committee of the Board of Street Opening, to whom the matter had been referred, for the purpose of discussing suitable sites for the parks in the tenement-house districts, where they are most needed, as well as in the upper wards, which are not as yet closely built up. Dr. John T. Nagle, of the Health Department, presented a report showing the number of residents to the acre, in the different wards of the city, which range from two in the 24th Ward, to 433 in the 10th. In eight of the down-town Wards, the population is over two hundred to the acre, and these were the ones which he believed to be most urgently in need of the small parks. According to the provisions of the new law, not more than $1,000,000 can be expended for the purpose in any one year, and it is, therefore, estimated that about one park a year can be laid out.

MEDICAL NOTES.

— Despatches from Rome, under date of September 19th, say that the cholera afflicting the inhabitants of Messina is of the most violent character, death frequently ensuing an hour after the attack. The mortality is not confined to the lower classes. There is great misery among the people. The grave-diggers refuse to pursue their calling until compelled to by the troops. The epidemic has appeared in the prisons.

— A correspondent writes to *Science* that in the Texas grazing region, from which has sprung, within the last two decades, the entire stock of range cattle of the western states and territories, the beef tapeworm is a most common occurrence. In fact, he asserts that at least every fifth person is afflicted. The cause of this is that on open ranges the eggs of tapeworm are most easily and widely distributed, and hence the cattle more frequently become infested with cysts. Stall fed cattle, on the other hand, where the water is usually less subject to contamination, and the food cleaner, are only seldom infected, and hence tape-worm was not so prevalent in regions where the latter were used.

In the last few years, however, the shipment of range-cattle, by means of refrigerator cars, has become the chief beef supply of the East, and the danger and frequency of tape-worm greatly increased. Of course, no one should stop the use of well-cooked meat on this account, but rare and half-cooked meats can easily be avoided.

NEW YORK.

— At a meeting of the Board of Health held August 31st, ten of the summer corps of visiting physicians were transferred to the vaccinating corps.

— At a meeting of the Board of Health, held September 7th, Dr. W. de Forest Gay was relieved of the duties of Registrar of Vital Statistics. He remains Sanitary Superintendent (a position which he has filled in a most satisfactory manner for many years), at a salary of $4,800 per annum. Dr. Roger S. Tracy, Chief Sanitary Inspector, was appointed Registrar of Vital Statistics, his salary being advanced from $2,600 to $3,000, and Major Willard Bullard was made Chief Sanitary Inspector. Dr. Taylor, Chief of the Bureau of Contagious Diseases, was directed to prepare and present a plan for the instruction of medical and sanitary inspectors, having in view the more satisfactory control of all preventable diseases. On and after January 1, 1888, there is to be a first grade of medical inspectors, who, for the first three years, shall receive a salary of $1,200 per annum. They may then be promoted, for merit and satisfactory service, to a second grade, at $1,500 a year for two years; then to a third grade, at $1,800 a year for three years; and finally, to a fourth grade, at $2,000 a year.

— On September 14th, Archbishop Corrigan, of the Roman Catholic Church, laid the corner-stone of the new St. Joseph's Hospital for Incurables with appro-

priate ceremonies. This institution will occupy a block in the annexed district beyond the Harlem, on the eastern side of the city. The site is a fine one, directly opposite the new St. Mary's Park, and the main building, which fronts on 143d Street, is to be two hundred and forty by one hundred feet. Back of this and fronting on 144th Street, will be the residence of the Sisters of the Poor of St. Francis, who are to have charge of the hospital, and between the two buildings, and connecting them, will be a chapel. The cost of the whole is estimated at $250,000, and there will be accommodation for two hundred and fifty incurable patients.

— The College of Physicians and Surgeons, which is about to occupy its magnificent new buildings opposite the Roosevelt Hospital, announces that, after the session of 1887–88, preliminary examinations will be required in the cases of all applicants for matriculation who profess to enter for the degree of M.D., except from those who have been graduated at recognized colleges or can present certificates to the effect that they are proficient in the branches included in the preliminary examination prescribed by the College. The examinations are to be in writing, and will be held semi-annually.

— It is said that Dr. Charles E. Simmons, who is at present one of the Commissioners of Charities and Correction, has presented a bill of $143,000 to the trustees of the estate of the late Samuel J. Tilden, for services rendered during the life of the deceased. Dr. Simmons was on terms of intimacy with Mr. Tilden, and visited him almost every day for about eight years. If the amount named is correct, its large size is probably due to the fact that during a very considerable portion of this time his patient resided at his country-seat on the Hudson, above Yonkers.

— During the recent annual meeting of the American Gynæcological Society, which was held at the Hall of the New York Academy of Medicine, there were present a number of distinguished foreigners who had been in attendance at the meeting of the International Medical Congress, in Washington, and among these were Drs. Graily Hewitt and George Granville Bantock, of London, A. R. Simon, of Edinburgh, G. Apostoli and A. Doléris, of Paris, August Martin, of Berlin, and A. Cowles, of Geneva. On the evening of September 13th, Dr. P. F. Mundé entertained these gentlemen, with a number of American guests, at a dinner at the Union League Club, and on the 15th, the annual dinner of the Society was held at Delmonico's; while on the 14th, Dr. Fordyce Barker gave a large reception at his house to the American Gynæcological Society, its distinguished foreign guests, the Obstetrical Society of New York, and the members of the Obstetric Section of the New York Academy of Medicine.

— The fourth annual meeting of the New York State Medical Association, will be held at the Hotel Brunswick, September 27, 28 and 29.

Miscellany.

A NEW MEANS OF DETECTING ALCOHOLIC AND SIMULATED STATES OF COMA.

DR. VON WEDEKIND, writing in the *Medical Record*, claims a sure method of detecting malingerous hysterics and alcoholic patients, which he has practised successfully in the Ambulance Service of the Chambers Street Hospital, New York. He says that by simply pressing on the supraorbital notches with a steadily increasing force, one may, with a certainty of success, detect a malingerer; bring an unconscious alcoholic to his senses, and thus differentiate on the spot between alcoholic and other comas; cause cessation of hysterical convulsions, and in many instances quiet violent alcoholic delirium. The best way of applying this test is: When the patient is in the recumbent position, the physician, standing at the head of the cot, or kneeling when the patient is on the ground, fixes the tips of the thumbs over the supraorbital notches, as above described, never minding the occasional yell or struggle, press steadily, gradually increasing the force, and in half a minute or a minute the result is accomplished.

The success of this method he illustrates from the fact that of the 213 alcoholic patients to which the ambulance was called, 137 were comatose, the police and friends being utterly unable to arouse them, and this treatment brought 128 of the 137 to consciousness. Of the cases where no result was obtained, 5 were, besides alcoholism, suffering from cerebral concussion, two fracture of the base of the skull, one uræmic coma, and one from syncope from valvular heart trouble.

In the 18 cases of hysteria there was absolute success; no one case failed to respond, and the same with malingerers. Nine of twenty-eight cases of delirium tremens quieted down and spoke rationally; in the remainder there were varying degrees of success; some becoming more quiet, while in others but little change was noticed.

OBITUARY.—CHARLES ELIOT WARE, M.D.

A shining light was extinguished in the death of Dr. Charles Eliot Ware, which took place suddenly, on Saturday, September 3d. It is surely appropriate that a surviving friend and contemporary should bear testimony to his worth and his excellence, and should try to hold up to the younger members of the profession, who have not known him in his days of strength and activity, a model of the faithful, honest, skilful practitioner of medicine. The path of a medical practitioner has its special trials and temptations. The patients and attendants can not always judge of the skill and honesty of his work. The fear of God and an enlightened conscience are greatly needed for faithful work. With all the helps and restraints of medical colleges, associations and societies, greed, ambition and selfishness do claim their victims. He, who in a long life as a practitioner of medicine, has always been honest, honorable and unselfish, commands our admiration.

Dr. Ware's chief inheritance was a good name. His father, for many years the Professor of Divinity in Harvard University, known and respected of all men, two brothers, ministers of the gospel, highly esteemed in the community where they labored, a brother in great repute a as practitioner of medicine and a valuable and honored professor of the theory and practice of physic in Harvard University were among his forbears. He took up their mantle and maintained his integrity during a life of

more than three score and ten years. We can safely point to his character as worthy of admiration and imitation.

He had a good education, graduating at Harvard College in the class of 1834 and from the Harvard Medical School in 1837. He neglected no opportunities of self-improvement. Fidelity to duty was the aim of his life. His numerous patients recognized in him a counsellor to whom their interests and welfare were the paramount object. He trained his intellect, he stored his mind with knowledge for their benefit. He had naturally a sound judgment, a dignified deportment, unfailing courtesy. He was emphatically a just man. His brethren of the profession felt they were always safe in his hands. Of no one did he ever take advantage. He never sought honor or public office. He accepted and faithfully discharged all duties assigned to him. He was a Visiting Physician at the Massachusetts General Hospital from 1857 to 1867, when he resigned and was appointed upon the Consulting Staff. He was a trustee, a member of the executive committee and vice-president of the Board of the Boston Lying-in-Hospital, and this useful institution owed much to the active and intelligent interest which he always manifested in its welfare.

He served the Massachusetts Medical Society for six years as Secretary. For three years he was the Secretary of the Boston Society for Medical Improvement. He sought emolument only in the faithful performance of work.

The duties of a son, brother, husband and father were discharged with love and fidelity. He was always considerate of the poor and needy. His professional skill was always at their disposal, and he was foremost in all charitable work.

Such men are an honor and credit to the profession. Dr. Ware's example is a legacy. He has gone where brilliant talents, great riches and honors are of avail only as they have been used for others. His friends may fondly anticipate for him that verdict which we all must covet, "Well, done, good and faithful servant."

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 10, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	781	360	27.29	13.00	15.86	1.69	.97
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	139	61	23.76	8.96	11.52	2.16	5.14
Boston	400,000	204	90	19.60	18.13	11.76	2.45	1.96
New Orleans	242,750	119	39	25.20	13.44	10.08	—	5.04
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	104	42	22.08	14.40	9.61	5.76	3.84
Pittsburgh	210,000	80	32	40.00	12.50	7.50	11.25	17.50
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	65	48	35.42	1.54	32.34	1.54	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	21	4	38.08	33.33	23.80	9.52	—
Charleston	60,145	32	16	15.65	3.13	6.26	—	—
Portland	40,000	9	4	33.33	11.11	22.22	—	11.11
Worcester	68,383	29	9	31.05	3.45	20.70	3.45	3.45
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	26	12	22.10	7.70	7.70	3.85	—
Fall River	56,863	34	15	32.34	14.70	20.58	5.88	2.94
Lynn	45,861	18	8	22.22	16.66	11.11	5.55	—
Lawrence	38,825	16	7	25.00	18.75	6.25	12.50	—
Springfield	37,577	13	6	30.76	7.69	15.38	—	15.38
New Bedford	33,393	19	10	42.08	5.26	21.04	—	15.78
Somerville	29,992	6	2	16.66	—	—	—	—
Salem	28,084	16	5	12.50	12.50	—	6.25	6.25
Holyoke	27,894	12	2	16.66	33.33	16.66	—	—
Chelsea	25,709	10	3	10.00	30.00	10.00	—	—
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	10	5	30.00	20.00	20.00	10.00	—
Gloucester	21,713	9	4	66.66	—	44.44	22.22	—
Brockton	20,783	10	3	20.00	20.00	10.00	—	—
Newton	19,759	11	4	27.27	9.09	9.09	9.09	—
Malden	16,407	6	5	—	—	—	—	—
Fitchburg	15,375	5	2	20.00	20.00	20.00	—	—
Waltham	14,609	5	3	20.00	20.00	20.00	—	—
Newburyport	13,716	12	3	16.66	—	16.66	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,821: under five years of age 804; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 481, consumption 222, lung diseases 120, diarrhœal diseases 259, diphtheria and croup 96, typhoid fever 51, malarial fevers 27, scarlet fever 16, whooping-cough 14, cerebro-spinal meningitis eight, erysipelas six, puerperal fever three, small-pox (New York) one. From malarial fevers, New Orleans 12, New York nine, Charleston three, Baltimore two, Nashville one. From scarlet fever, New York 10, Baltimore and Cambridge two each, Boston and Pittsburgh one each. From whooping-cough, Boston five, New York four, Baltimore, Pittsburgh, Milwaukee, Cambridge and Lawrence one each. From cerebro-spinal meningitis, New York three, Washington, Fall River, Lynn, Somerville and Brockton one each. From erysipelas, Baltimore, New York, Boston, Pittsburgh and Worcester one each. From puerperal fever, Washington two, New Bedford one.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending August 27th, the death-rate was 20 8. Deaths reported 3,692: infants under one year of age 1,391; acute diseases of the respiratory organs (London) 160; diarrhœa 615, whooping-cough 98, scarlet fever 68, measles 58, fever 45, diphtheria 36, small-pox (Sheffield) five.

The death-rates ranged from 17.7 in Sunderland to 38.8 in Preston; Birmingham 22.4; Hull 21.2; Leeds 19.2; Leicester 19.0; Liverpool 22.9; London 18.5; Manchester 29.2; Newcastle-on-Tyne 22.9; Nottingham 19.5; Sheffield 24.7.

In Edinburgh 18.4; Glasgow 18.2; Dublin 29.3.

The meteorological record for the week ending September 10, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Sept. 10, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Mts.	Amount in Inches.
Sunday, ... 4	30.21	63.0	69.0	58.0	50.0	68.0	79.0	66.0	N.	E.	S.W.	14	12	8	F.	C.	C.		
Monday, ... 5	30.17	68.0	79.0	52.0	83.0	58.0	75.0	72.0	N.W.	W.	S.W.	4	7	9	C.	C.	C.		
Tuesday, ... 6	29.91	68.0	80.0	59.0	84.0	50.0	80.0	71.0	W.	S.W.	S.W.	10	18	12	C.	F.	O.		
Wednes., .. 7	29.57	72.0	80.0	66.0	90.0	68.0	93.0	84.0	S.W.	S.W.	W.	11	24	8	O.	F.	O.		
Thursday, 8	29 85	62.0	69.0	59.0	68.0	53.0	68.0	63.0	W.	N.W.	N.	19	12	3	C.	F.	C.		
Friday, ... 9	30.05	63.0	72.0	52.0	72.0	56.0	84.0	71.0	N.W.	S.W.	S.W.	1	12	12	C.	O.	C.		
Saturday, . 10	30.11	64.0	75.0	55.0	95.0	58.0	70.0	74.0	N.W.	N.W.	N.	12	10	12	O.	F.	C.		
Mean, the Week.																		6	.67

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIESOF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 3, 1887, TO SEPTEMBER 16, 1887.

PERLEY, H. O., captain and assistant surgeon. Ordered to accompany battalion of the 23d Infantry from Fort Wayne, Mich., to Chicago, to participate in the International Military Encampment to be held in that city in October next. Par. 1, S. O 191, Headquarters Division of the Atlantic, September 8, 1887.

SUTER, WM. N., first lieutenant and assistant surgeon. Ordered to accompany battery "E," 3d artillery, from Washington Barracks, D. C., to Philadelphia, on the 14th inst., to participate in the military parade, during the celebration of the Centennial of the adoption of the Constitution, September 15, 16, and 17, 1887. Par. 3, S. O. 191, Headquarters Division of the Atlantic, September 8, 1887.

BYRNE, C. C., major and surgeon. Detailed as a member of the Army Retiring Board in Washington City, vice-Captain Washington Matthews, assistant surgeon, relieved. Par. 2, S. O. 208, A. G. O., September 7, 1887.

O'REILLY, R. M., major and surgeon. Ordered to proceed to Fort Niagara, New York, on public business, and upon completion thereof to return to his proper station, Washington, D. C. Par. 10, S. O., 205, A. G. O., September 3, 1887.

BANISTER, W. B., first lieutenant and assistant surgeon. Granted leave of absence for one month, with permission to apply for extension of one month, to take effect upon arrival at Fort Lowell, of Assistant Surgeon J. B. Girard. Par. 4, S. O. 91, Headquarters, Department of Arizona, August 29, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 17, 1887.

ASHBRIDGE, RICHARD, passed assistant surgeon. Detached from "Constellation," and to the Naval Academy, Annapolis, Md.

AYERS, JOSEPH. G., surgeon. Detached from Torpedo Station, and wait orders.

WISE, JOHN C., surgeon. Ordered to relieve Surgeon Ayers at Torpedo Station.

CONES, SAMUEL T., medical director. Detached from Hospital, Chelsea, Mass., and placed on retired list September 17th.

BRADLEY, GEORGE P., surgeon. Leave of absence extended six months with permission to remain abroad.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING SEPTEMBER 10, 1887.

SAWTELLE, H. W., surgeon. Granted leave of absence for fifteen days, August 31, 1887.

CARMICHAEL, D. A., passed assistant surgeon. Granted leave of absence for thirty days, September 5, 1887.

FATTIC, J. B, assistant surgeon. Ordered to Cairo, Ill., for temporary duty, September 6, 1887.

DEATH.

Dr. James P. Webb, of Bridgton, Me., an eminent physician, died recently, aged sixty-four.

SOCIETY NOTICES.

NEW YORK STATE MEDICAL ASSOCIATION.— The Fourth Annual Meeting of the New York State Medical Association will be held September 27, 28 and 29, 1887, at the Hotel Brunswick, Fifth Avenue and 27th Street, New York City.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, Monday evening, October 3d, at eight o'clock. Readers: Dr. R. A. Kingman, "Anæsthesia in Normal Labor," (second paper). Dr. E. N. Whittier, "A Dissecting Mesenteric Aneurism."

CHARLES P. STRONG, M.D., *Secretary*.

OBITUARY.

ALONZO CLARK, M.D., LL.D.

Dr. Alonzo Clark, the distinguished professor, clinical teacher, and consultant, died September 13th, in his eighty-first year. He had been in feeble health for some years past, and during the last three or four years his mental powers had become more and more impaired. For three days preceding his death he was in a comatose condition. Dr. Clark was graduated from Williams College in 1828, but it was not till 1835 that he completed his medical studies at the College of Physicians and Surgeons of New York. He early took high rank as a teacher and lecturer, and the first professorship which he held was that of pathology and materia medica in the University of Vermont Medical School at Burlington. In 1848 he was called to the Chair of Physiology and Pathology in the New York College of Physicians and Surgeons, and seven years later he was made Professor of Physiology and Practical Medicine in his Alma Mater. While Dr. Clark wrote comparatively little, his career as a medical teacher and consultant was a most brilliant and successful one, and few men have reflected more honor on the American profession. He was for many years visiting physician to Bellevue, St. Luke's and other hospitals, where his clinical lectures were always largely attended, and in 1853 he was President of the Medical Society of the State of New York. He was also President of the New York Academy of Medicine and other societies. Dr. Clark never married. His funeral was held in the Madison Square Presbyterian Church on September 17th, and was attended by the Fellows of the Academy of Medicine, the Faculty of the College of Physicians and Surgeons, and many other medical men.

BOOKS AND PAMPHLETS RECEIVED.

The Pathology and Physiology of Diabetes. Prosper Bender, M.D. Boston, 1887.

Transactions of the Colorado State Medical Society. Seventeenth Annual Convention, Denver, June, 1887.

Annual Announcement of the Louisville College of Dentistry, Dental Department of Central University. Louisville, Ky.

Vaso-Renal Change *versus* Bright's Disease. By J. Milner Fothergill, M D., Edin. New York: G. P. Putnam's Sons. 1887.

Report of the Trustees of the Newport Hospital, presented to the Corporation at their Fourteenth Annual Meeting, July 12, 1887.

Intubation of the Larynx. Papers read before the New York Academy of Medicine, in the stated Meeting of June 2, 1887. A. Jacobi, M.D., President, in the Chair. By A. Jacobi, Joseph O'Dwyer, Francis Huber, Dillon Brown, W. P. Northrup, I. H. Hance, and A. Caillé. New York, 1887. (Reprint.)

Original Articles.

FOUR MONTHS EXPERIENCE IN MINOR SURGERY AT THE BOSTON CITY HOSPITAL.

BY HERBERT L. BURRELL, M.D.,
Surgeon to the Out-Patients at the Boston City Hospital.

During the last four months I have seen 1,685 new cases of minor surgery, many of them common and a few unique in character. On collating this mass of material the idea suggested itself that an instructive interchange of opinions might take place if a few personal experiences were presented to this Section.

The everyday technique of the practical surgeon is, I fear, in danger of being lost in the bold ventures of modern surgery, and if this paper leads to the development of a few practical points in the art of surgery, the writer's purpose will have been accomplished.

I shall try to select a few interesting details in the work, from the mass with which I have to deal, and will present those cases which may be of value for discussion.

ABSCESSES.

Sixty abscesses in various locations have been treated; the majority have been rendered externally aseptic by the free use of corrosive sublimate 1-2000, freely incised, and their contents evacuated; in a few cases they have been curetted, and all have had an antiseptic dressing applied. This method has been quite satisfactory, but occasionally it has been found necessary to omit the use of iodoform, owing to its irritating action producing an erythema. I feel quite sure that many abscesses have been hastened in their healing by removing the antiseptic dressing after the fifth or seventh day, and substituting an "open dressing," like carbolic or phenyle poultices, balsam Peru or chlorinated soda wash.

Of ten abscesses of the neck, four chronic abscesses that had small clearly-defined cavities with liquid contents, were treated by the use of a silver wire seton; the method employed is as follows: the surface is rendered aseptic, a needle doubly threaded transfixes the abscess from brawny edge to brawny edge, the looped thread draws through a small piece of silver wire, whose ends are caught together: this is covered with iodoform, antiseptic absorbent cotton and a firm bandage. In three days the dressing is removed, when it has been found that in all but one case that the contents of the cavity had been evacuated at the side of the wire. Contractile collodion is then painted on over the surface between the points of entrance of the silver wire; again absorbent cotton and bandage are applied, and in the course of a week the dressing and wire are removed. There results only two minute punctate cicatrices, which soon become almost imperceptible.

BITES.

One cat, one human, two horse and seven dog bites have been treated, none of which have been followed by any serious symptoms. In two of the dog bites, which were severely lacerated, the punctured wounds of the teeth were united by a free incision, that the wound might be thoroughly cleansed; in all of these cases the reparative process was very slow.

CONTUSIONS.

Forty-five contusions of various parts of the body have been treated, principally by immobilization, oakum pad compression and firm bandaging. Wet dressings were rarely used.

CRUSHING OF FINGERS, HANDS AND TOES.

Twenty-seven crushes of these members have been treated; this excludes all cases where amputations were performed. They all did well under antiseptic dressings; in fact, I can recall only three cases in which suppuration of any importance occurred, and all of these were cases in which the nail was split down to the matrix, and acted as a foreign body in the healing wound. I feel quite sure that it is better to primarily remove nails that have been split or crushed at the matrix.

FELONS.

Twenty felons have been freely incised, antiseptically dressed, and the digit returned to usefulness in a little over a month's time.

This period has been extended to ten or twelve weeks in five cases, owing to prolonged suppuration from the separation of a phalanx; in none of these cases has there been any extension in the form of lymphangitis or suppurative teno synovitis. All hands with wounds of any description have been placed upon splints.

FROST-BITES.

Ten of these cases have been treated in a very unsatisfactory fashion, possibly owing to the intrinsic difficulties attending the treatment of these cases. Carbolic acid, and balsam of Peru have been the applications used, but have had apparently no effect in hastening the reparative process.

GANGLIONS.

Eighteen cases of ganglion of the extensor and flexors of the hands have been treated. One by subcutaneous puncture, and sixteen by rupture of the sac, by pressure of the super-imposed thumbs; one I failed to rupture, and the patient disappeared. Two of the sixteen ganglia refilled and were re-ruptured. The after-treatment was compression by pad and bandage.

SPASMODIC HAMMER-TOE.

By which is meant a spasmodic paroxysmal flexion of a toe. I have met three cases of this affection; they have all occurred in young girls, who wore ill-fitting boots and were of a nervous temperament.

The affection is spasmodic, extremely painful during a paroxysm, and apparently perfectly well in the intervals. It is subjectively described as a cramp. In two of the cases it was worse at the menstrual period. A broad-soled boot and the fixation of the toe to a plantar pad of a roller bandage sufficiently large to fill out the concavity of the flexor surface of the affected toe, was found quite efficient.

HYDROCELE.

Nineteen cases have been treated by evacuation of the fluid by means of a small trocar; ten or twelve mm. in circumference. All of the sacs have refilled in from two days to three months; once the testicle was wounded, which was followed by an attack of orchitis. The opening in many cases was sealed with compound tincture of benzoin; adhesive plaster rarely remains in position over a few minutes.

PES PLANUM.

There have been six cases in young adults, which incapacitated them from labor. The affection usually manifests itself when the patient is obliged to stand or walk a great deal; the pain is very severe in character and has been referred in these cases to three points: to the inner middle surface of the sole of the foot and to the interspaces that exist between the malleoli and the os calcis.

Complete relief has been afforded most of these cases by the application of a properly fitted valgus plate. It has been sometimes necessary to carry the plate well up to the inner malleolus in order that a proper support for the arch of the foot might be gained.

SPRAINS.

Sixty-two sprains in various locations have been treated by immobilization, firm pressure by pasteboard and bandages, and in a few cases the collodion treatment has been satisfactorily used.

In a few cases where there has been but little tenderness over the joint, and a non-inflammatory œdema had existed; systematic massageing from the beginning was used with satisfactory results.

In a large number of cases of sprains, as soon as the tenderness of the tissues about the joint diminished and wrinkling of the skin occurred, the foot was systematically douched with hot water, massaged and a firm bandage applied.

TENO-VAGINITIS, OR SUPPURATION IN THE SHEATHS OF THE FLEXOR TENDONS OF THE FINGERS.

Five cases have been checked by free surgical incisions over the palmar surface of the affected digit, the incision being made in the median line of every tender joint, the flexure of the joint being carefully avoided.

Under antiseptic precautions, and with thorough immobilization, this treatment has been eminently satisfactory. In only one case did permanent contraction of the finger occur.

TENO-SYNOVITIS, OR CREAKING TENDON.

Four cases have been treated, and in all it was apparently due to prolonged use of the flexors or extensors of the arm. The treatment has been absolute rest by a splint, and in two of the cases, by the application of blisters. The arm has been returned to usefulness in from three to four weeks.

CHRONIC ULCERS OF THE LEG.

One of the most useful dressings in the treatment of ulcers is the so-called antiseptic tin dressing, for which I am indebted to my colleague, Dr. Watson. It is applicable in all cases where even compression and bandaging would be useful. The method of its application is as follows: The ulcer and its surrounding surface is rendered as nearly aseptic as possible, then iodoform is dusted upon the surface of the ulcer, a piece of antiseptic paper or silk is smoothly applied, then a piece of tin, which should overlap the margin of the ulcer at least one-half inch. Over this is applied a piece of boracic gauze, with a fenestra in the centre, and covering all; more gauze and a well-applied bandage. The dressing should not be disturbed until leaking occurs.

FROG-SKIN GRAFTING.

Seven attempts have been made to graft the skin from a frog's abdomen on to a granulating surface. One has been completely successful, two have been partial successes, while the rest have been failures. That success is possible is, I feel assured, and the failures have been errors in technique or from other untoward circumstances.

VARICOCELE.

Twelve cases have been fitted with suspensory bandages, with complete relief to the dragging, sickening pain so constantly complained of.

In one case the patient had a very large varicocele, which he declined to have treated, as there was not the slightest inconvenience from it. It illustrates what excursions can be taken from the normal standard of parts without especial discomfort, and also shows how hard it is to define the point where the normal ends and the pathological begins.

DEEP VARICOSE VEINS.

Seven cases have come under my care of adults between thirty and fifty years of age, who were obliged to stand in their occupations, complaining that, as the day advanced, localized and gradually extending areas on the surface of the thighs and legs became painful. In five cases, the sensation was described as that of the tearing of tissues; in the two others, as if the part had been burnt. These areas varied in size from a ten-cent piece to the size of the palm of the hand. No perceptible external varicosities, except small, dilated venules, were noticed in these cases, and the diagnosis of deep varicose veins was made from the history of the onset, and from the fact that a well-fitting bandage or elastic stocking completely relieved the symptoms.

Doubtless many of the obscure aches and pains in the lower limbs that patients complain of could be relieved by a recognition of this condition.

SCALP-WOUNDS.

The surface about the wound for, at least, two inches is shaved, and the surface rendered aseptic, the hæmorrhage checked by pressure-forceps, or simple pressure, and in no case has it been found necessary to ligate a bleeding vessel. In contused or badly lacerated scalp-wounds, it has been the custom to freely lay them open, to trim off the shreddy tissue, and to unite the resulting clean-cut edges. A continuous catgut suture (small) is used, and a small drainage-tube is always inserted into any existing pocket. Primary union has been the rule under antiseptic dressings. A jersey cap, drawn well over the head, keeps the dressings in position.

In truth, I think it may be said that of the one hundred and eighty wounds incised, lacerated, neglected, punctured, poisoned, and contused, that at least ninety per cent. of them have, after having been rendered thoroughly antiseptic, healed in a satisfactory manner under the iodoform and boracic acid gauze dressing. I believe that the primary rendering of the wound surgically clean, and the application of a dry, firm, compressing dressing, will give the most satisfactory results in wound-dressing. These dressings have been found almost invariably painless; in fact, were a wound painful, I should strongly suspect the presence

of some foreign body or decomposing clot beneath the surface.

FOREIGN BODIES IN THE HAND.

Needles, fish-bones, splinters, etc., have always been allowed to rest quietly in the tissues, unless distinct indications of their presence could be made out from physical examination of the part, and the experience which I have had has never led me to regret the treatment of cases on this basis.

LYMPHANGITIS.

Nine cases have been treated by the use of pads applied in the manner advocated by the late Mr. Gamgee, with very satisfactory results. Within twenty-four hours the redness has begun to fade, and in forty-eight hours, wrinkling of the skin, showing a subsidence of the swelling, has occurred.

In addition to the use of these pads in the treatment of lymphangitis, I have used a ten per cent. solution of resorcin in lanolin, with results that were quite satisfactory. It is, of course, very difficult to decide as to the efficiency of two remedial measures, when used together in the same case. Enlarged glands in the groin, axilla, and neck have apparently decreased in size under the use of lanolin and resorcin.

FRACTURES.

Naturally in an out-patient service the fractures are principally of the upper extremity. One hundred and fifteen have occurred, and I shall only speak of a few classes of cases.

All splints have been carefully covered with sheet wadding, protected by a carefully adjusted piece of compress cloth which retains the wadding in position throughout the treatment of the fracture, and second coverings of splints have rarely been necessary. The covering of the splint with cloth would seem from my experience to be more comfortable for the patient and more economical, in — that in gross — less materials are used in the continuous treatment of the fracture.

FRACTURES OF THE NOSE.

Four cases have been treated in a satisfactory manner by rectifying the deformity by manipulating and fixing the fragments in position by means of a tin splint devised by Dr. Post.

FRACTURES OF THE CLAVICLE.

Twelve cases have been treated by various methods. By the application of the "many-tail" bandage, "the Sayre," or "the Kelly" bandage. Velpeau's bandage has been rarely used, owing to its instability; this, however, may be easily overcome by stitching the bandage in position and coating it over with silicate of potash, starch or dextrine. The amount of deformity in many cases had been considerable from callus formation, but this has melted away as time passed, in a surprising fashion.

RETENTION BANDAGES AS APPLIED TO THE SHOULDER.

One of the most useful bandages is one devised by Mr. C. M. Whitney; it securely holds the arm at the side, with a minimum amount of material.

The many-tail bandage has been largely used, but is open to the objection that it frequently cramps the arm and hand so that the patient has not infrequently complained more of the bandage for the first forty-eight hours than of the injury for which the bandage is applied. This, of course, is true of all retention bandages in which the arm is flexed upon the chest, but has been especially marked in the "many-tail" bandage.

FRACTURES ABOUT AND INTO THE ELBOW-JOINT.

Six have occurred. Two of the olecranon, one of the internal epicondyle, one of the internal condyle, and two fractures into the joint.

One of the fractures of the olecranon illustrated the importance of carefully examining injuries over the point of the elbow associated with great swelling. On the first day the patient was supposed to have simply a severe contusion over the olecranon, but on the second day the djagnosis was made clear by a distinct sulcus appearing between the fragments of the bone. Both cases were treated in the following manner: A roller bandage was applied from the finger-tips, up the arm to the seat of fracture. A well-padded straight splint was then secured to the palmar surface of the arm. Then a small roller of compress cloth was placed against the superior fragment of the olecranon, the ends of this roller being tied down firmly, in an oblique direction, downwards and forwards, to bring the triceps fragment in contact with the ulna fragment of the olecranon.

This certainly brought the fragments into apposition, but both of the cases were narrowly watched, and the bandages were daily readjusted. I am sure that carelessness in the adjustment of this device might lead to gangrene or local sloughs. The splints were removed at the end of two weeks and gentle passive motion encouraged. The results have been fairly satisfactory in that the arms can be flexed to at least a right angle, but supination is somewhat limited.

The T fractures were let free from the splints on the fourteenth day, but passive motion was not made until the expiration of twenty-one days.

It is too early in these cases to speak of the results. Early passive motion is still a mooted question in this class of cases, but an expression of opinion regarding its advisability by the gentlemen present might be a matter of interest.

FRACTURES OF THE METACARPUS.

Fifteen cases have occurred, and I regret to say that the results have not been satisfactory. Thirteen have been caused by blows with a clenched fist. Some have been placed upon straight palmar splints with pads suitably adjusted to correct the deformity; others have been treated by the hand being flexed over a suitable sized roller bandage, but in only two cases has the treatment been concluded without a certain amount of dorsal angularity; this deformity, although quite marked in a few cases has not impaired the usefulness of the hand. I shall hope to in the future use dorsal splints and extension. In one case extension was secured by means of a splint, which served to correct a marked deformity in a fracture of the first metacarpal bone, in a child.

It was simply a tin palmar splint with the projection for the thumb extending well out beyond the end of this member, to secure a fixed point to extend towards. In addition there was a spur or leaf of tin, which was so adjusted that it would fold over from

the radial edge of the splint on to the deformity and retains it in its corrected position.

COLLES' FRACTURE.

There have been forty-five cases of Colles' fracture, and from these I have been taught a few facts.

At least one-half of the patients supposed that they had simple sprains of the wrist, which opinion had been confirmed in many cases by friends and physicians that they had consulted. At the risk of being tedious I will give a few details, which I have been led to adopt in the treatment of this injury.

Both arms of the patient have been usually bared to the elbow, that an accurate comparison might be made of the wrists, forearms and hands. In my notes I find that 62 per cent. of the cases had the characteristic silver-fork deformity; 92 per cent. had localized tenderness at the seat of fracture in the radius, and by this is meant the point of extreme tenderness, for frequently the whole wrist and arm were tender.

The general contour of the arm having been observed, the bony land-marks located and their relative position determined, especially the relative planes of the tips of the styloid processes.

The fracture has been reduced by manipulation. Various methods have been tried, but the grip figured below has been found to give the operator the most complete control of the fracture.



Gentle traction is first made, and then the hand is successively extended, abducted and strongly flexed. During abduction the impaction, (if it exists), will be felt to give away, and on the completion of flexion the deformity will usually be found to have been completely reduced.

I have rarely been obliged to repeat this manipulation, but I never consider the fracture "set," until the deformity is completely reduced and will remain so without traction or pressure. This latter point is, I believe, a very important measure, for I cannot help thinking that it makes but little difference what kind of splint is used so long as the fracture is primarily completely reduced.

I have used all kinds of splints, but for my own part I prefer the palmar splint of Dr. Bolles, with a piece of mill-board accurately moulded to the dorsum of the fore-arm and hand.

These splints are secured by lightly applied broad adhesive plaster straps; the principal retention being secured by a snugly applied roller bandage. The pain for the first twenty-four hours is considerable,—an analysis of the cases shows that it has persisted from three to five days; usually the readjustment of the bandage at the end of twenty-four hours has relieved the greater part of the pain.

Tenderness has persisted at varying time in these cases, but has averaged seventeen days.

The dorsal splint has been omitted in about three weeks and the palmar at the expiration of four weeks; in a few cases the splints have been retained five or six weeks, and in one case, owing to delayed union, eight weeks. The arm has been removed from the sling in many cases, before the splint has been omitted; this I have been led to do from an apparent relapse of the deformity where the arm without splints was kept in a sling that adducted the hand on the fore-arm.

This recurrence of deformity from the too early removal of splints, would seem to be a matter of some importance, and certainly no "hard and fast rule" can be made, assigning a definite time for the removal of splints. Other things being equal, the older the patient the longer the fracture should be protected, and further, one might say that the older the patient the earlier passive motion should be begun; so that between these indications we must shape our course. In a few cases I have applied straight dorsal and palmar splints, these splints being shortened as soon as practicable, that the fingers might be set free.

Although careful records have been kept of these cases, I cannot speak statistically regarding the return of the hand to usefulness, but only from my impressions. When the hand is released from the splints there is rarely any ability to flex or extend the wrist joint, and it is only after patient and frequently painful efforts that complete restoration of mobility is obtained, and that in two, three or more months.

Perhaps one of the commonest and most troublesome causes of disability that has occurred, has been the persistence of the effusion that takes place into and about the sheaths of the flexor tendons forming a distinct elastic pad over the palmar surface of the wrist. These cases have been greatly benefited by massage, and it would seem that this measure should hold an important place in the convalescent treatment of fractures.

The most troublesome class of Colles' that have been met with are those occurring in women past the middle period of life, of a rheumatic diathesis; in these cases the early release of the fingers is a very important procedure, and the administration of the iodide of potassium and wine of colchicum has apparently been of benefit.

The subject of the treatment of fractures has been of great interest to me, and I am convinced that we do not always elicit all the information from the examination of a fracture that is obtainable, and which may be of importance.

Unless the patient is under the influence of an anæsthetic, the examination is necessarily painful, and I have made it a rule which I have rarely broken, to always explain to the patient that it is necessary to inflict a certain amount of pain; the maximum pain should be reserved until the last, for if inflicted at the start a barrier is erected by the patient which may prevent the examiner from eliciting important information regarding the details of the fracture.

— Dr. von Nussbaum, of Munich, has recently performed his five-hundredth ovariotomy. The occasion was celebrated by his students with a banquet to the distinguished surgeon.

THE MORBID CHANGES AND SURGERY OF THE NAIL.[1]

BY J. LESLIE FOLEY, M.D., L.R.C.P., OF LONDON.

Mr. President and Gentlemen: I read this paper more for my own instruction than for yours, hoping that it may provoke discussion, and that I may thereby learn the views of members of riper experience and maturer judgment than my own. The nail seems a somewhat trivial and ordinary subject to occupy the minds of learned members of this Society, but it is only by contemplating the smaller objects that we are fully able to appreciate the larger; and in practice, as in life, the careful attention to little things often tends greatly to one's success. In order properly to understand the morbid changes of the nail, it is necessary to be familiar with its normal structure. Pardon me, therefore, if I refresh your memories by briefly referring to its anatomy. A nail is a peculiar arrangement of epidermal cells: the undermost of which are rounded or elongated; the superficial are flattened, and of a more hairy consistence. That modified portion of the corium by which the nail is secreted forms the matrix, and extends beneath its root and body. The back edge of the nail or root is received into a shallow, crescentic groove in the matrix. The front part is free, and projects beyond the extremity of the digit. The intermediate portion of the nail rests, by its broad under surface, on the front part of the matrix, which here forms its bed. The part between the root and free extremity of the nail makes up its body. The matrix beneath the body is not uniformly smooth on the surface, but is raised in the form of longitudinal and nearly parallel ridges, on which are moulded the epidermal cells of which the nail is made up. The growth of the nail is effected by a constant production of cells from beneath and behind.

Excessive growth of nail substance occurs either by multiplication of the nails or increase in bulk. This anomaly includes the occurrence of nails in unusual places, such as on scapular region, on last phalanx of supernumerary fingers or toes, double nails on fingers or toes, etc.

Both go by the name of onychauxis or hypertrophy. These vary. In the first it appears spherically curved, glossy on surface; a grayish-white color, unshapely, thick, opaque, has a massive feel, and is very hard. When the whole nail is affected, its free border has a tendency to curve downwards. It may occur in various directions, according as it is disturbed in the vertical or transverse way (onychogryphosis). In its simplest form, it becomes clam-like. In other cases, it may curve spirally.

Symptoms. Loses its elasticity; becomes thickened. Loss of tactile sense. It is very much diminished, and reduced to a minimum. Patient unable to execute fine work, and, when enlargement considerable, incapacitated for work. When toe-nails affected, walking interfered with; and, at the same time, most unpleasant effects (inflammation and suppuration) are produced by nails enlarged laterally. If uncared for, they penetrate toward the lateral groove and grow in. In the second form they are slightly lustrous, dirty, yellowish-brown, or yellowish grayish-white. Externally, have well-marked longitudinal ribs; at intervals, transverse, more or less elevated ridges, and here and there, horny plates.

[1] Read before the Surgical Section of the Suffolk District Medical Society, April 6, 1887.

Etiology. Onychauxis may be congenital or acquired. In the former case, it dates from the embryoral period, and the anomaly appears in the course of life; in the great majority of cases, acquired.

Defective or altogether neglected care of nail may cause it. Uncleanliness, accumulation of all sorts of substances on the nail-bed act as irritants. This sometimes occurs in old people and bed-ridden patients.

Traumatic influences. Any considerable pressure for some time from in front or sideways on the extremities, as too short or narrow shoe, increases nutrition of nail-bed by augmented afflux of blood, and gives rise to hypertrophy.

Extension of morbid inflammatory processes of the corium and the connective tissue of the cutis to the matrix of the nail, as psoriasis, eczema, etc.

Defective formation of the nail, atrophy, etc., absence of the nails (anonychia), or their retarded growth, may also be congenital or acquired — causes much the same as in hypertrophy. Thermic and chemical irritations, traumatic influences, knock, blow, or pinch, inflammations associated with suppurative and ulcerative processes, febrile diseases, and all chronic wasting diseases, may be ranked as etiological factors. The cutaneous and nervous affections causing hyperplasia may also give rise to aplasia.

Characteristics of an imperfectly developed nail. Lustritous, delicate, a whitish-gray color, giving the impression of a thickened membrane, possessing but a slight hardness, readily broken and flexible. Dr. Ashurst observes, in a foot-note in his "Principles and Practice of Surgery," that Guenthre, a Danish surgeon, and Nillien, of Illinois, have noticed that the growth of nail is retarded during the early stages of fractures, to be resumed as repair goes on. They suggest this as a means of testing the progress of the cure, without disturbing the dressings in cases of delayed union or false joint. The growth of nail, however, may be checked by any cause which interferes with the nutrition of the part. Hence the test might not be universally applicable. Mitchell has noticed an arrest of growth in cases of cerebral paralysis. Gay the same, as a result of compression of the subclavian artery.

Nails may be deformed, degenerated, or discolored. They may be abnormally long or short, broad or narrow, flat or curved. A cut of a pen-knife will cause a bending of the nail. These deformities are not generally amenable to treatment. Too much stress is laid in works on clinical medicine as to the value of the color of the nail in various diseases. These are due to processes of nail-formation.

Animal and vegetable parasites affect the nail. The sarcoptes scabiei attacks the nail. In tropical regions, there are a number of flies which lay their eggs under the nails. Sand-fleas will cause, first, violent pain, and subsequently, paronychia, associated with loss of nail.

Vegetable parasite, onychomycosis. In only two mycoses of the skin, favus and herpes tonsurans, has it been clearly demonstrated that transferrence of their fungi will cause changes in the nail, that is, onchomycosis. Tinea favosa is rarer than tricophyton or tonsurans. The clinical features are similar. Nails brittle, frayed out, intersected, are lifted up according to the quantity of epidermis under them, become gryphotic, thickened, flake off, faded, dirty yellow color, and often become greatly disfiguring. Both the achorion schonleinii and tricophyton tonsurans produce the

above alterations. In a few cases, the nail presents a yellow-sulphur color, due to favus.

Horny growths sometimes spring from beneath the nail.

Ungual exostosis frequently appears. Both require excision.

The nail is closely related to the hair. I might mention, in passing, an instance known to me, which will serve to bear out this remark. A gentleman was camping out, some summers ago, in the Hudson Bay region. One night, a dreadful lightning-storm took place. The following morning, not only every hair on his body fell out, but he was also bereft of every nail, and remains hairless and nailless to this day, notwithstanding the use of the whole armamentarium of the pharmacopœia. The matrix of the nail is sometimes the seat of inflammation, etc. In its simpler form, we have onychia simplex; in the more severe, onychia maligna. This last occurs almost entirely in children under ten years. It is not very frequent. In Holmes's "System of Surgery," Mr. Thomas Smith states that out of seven thousand surgical outpatients of children under ten, he found the disease in nine instances only, and these cases occurred between the ages of one and seven years. May commence from a pinch or crust of finger-end, or result from explosion of fire-crackers. The swollen, bulbous-looking finger-end, the fluid effused beneath the nail; the thickened, flattened, or curled-up, unnatural-looking nail; the foul and painful ulcer exposed beneath it, with its peculiar, characteristic fœtor, and the hardened, shiny, and livid-red integument around it, are, no doubt, familiar to you all. The disease may go on until the joint is lost, or the phalanx necrosed.

I take a paronychia to be an acute inflammation of tissues underlying the nail. The ancients define a paronychia as an inflammatory tumor near the nail, involving its pulp or matrix. But in most modern works on surgery you will find described under the head paronychia, whitlow, felons, and even inflammation extending up to the hand or arm. The middle or side of the subungual tissues may be affected. Puncture, concussion, contusion, laceration, etc., may give rise to a paronychia. If the nail enlarges in width, it will press on the lateral furrow, and this, coupled with compression from a shoe, will cause a paronychia lateralis. At first, there will be great irritability of the parts, later, inflammation, suppuration, great proliferation of granulations, destruction of the cutis, of the tendon, opening of the phalangeal joint, caries and necrosis of bones. Usually the internal angle of the great toe is affected, rarely the outside of the little toe, seldom any other toe. It may assume a mild form or become chronic, with now and then an exacerbatory character, may be covered with irregular, spongy, easily-bleeding granulations. It may last for years.

Ingrowing toe-nail almost invariably occurs on the outer side of the nail of the great toe. Psoriasis may effect the nail. It may be, although not necessarily so, an evidence of syphilis. Central part of nail diseased; scabrous thickened, rough, convex, splits, deep fissure between the skin and finger. Nail resembles the concave shell of an oyster. Affection chronic and difficult to cure.

Syphilis may attack the nail. Jonathan Hutchinson[2] was one of the first to draw attention, not only to the state of the nail in syphilitic psoriasis but in congenital syphilis. Nails, symmetrically affected, dry, brittle, fissured and broken at their edges, superficial layers alone diseased. There is, however, a more remarkable affection in the form of a chronic general onychitis. The nails decay and fall off; they first become opaque and much thickened, their substance is soft. The disease is due to inflammation of the matrix which is swollen and readily bleeds. Syphilitic onychia usually attacks the toe-nails and is often associated with ulcerative fissures between the toes. The inflammation is not so severe as in the non-syphilitic form. Perionyxis is a syphilitic inflammation surrounding the nail, exists in a dry and moist form. It also has a simple and ulcerative variety. Deep ulcerations forming in the latter. Mucus patches are sometimes seen under the free border of the nail.

The surgery of the nail resolves itself into operative and general treatment. If it be troublesome on account of its longitudinal growth, this must be removed with the scissors in simple cases; when the thickness is increased at the same time, use cutting pliers or saw. Paronchia lateralis in its early stage may be treated by removing that part of the nail which threatens to grow in, besides putting into the groove fine threads of charpie and ordering wide shoes. When the inflammation is extensive it is well to use the method of complicated pressure, as devised by Kaposi of Vienna. This consists in first removing that portion of the nail projecting into the inflamed surface, then the swollen edge of skin is carefully pressed downward and the widened space thus gained at the furrow, is filled with accurately inserted threads of charpie cotton. In doing this, care should be taken that the sharp edge of the nail does not come in contact with the irritated part of the skin. This done, strips of adhesive plaster(emplas diachylon) are wound round the ungual phalanx, commencing at the affected part from above downwards, each turn being moderately stretched, so as to remove the border of the skin as much as possible from the edge of the nail, to crowd it downwards. If this is done skilfully, it will cause no pain to the patient, and eases his condition at once. He can not only walk, but wear his shoes. After twelve or twenty-four hours, the dressing is taken off, foot bathed and bandaged anew. Kaposi claims that this will cure the patient in from two to four weeks. Some add medicated solution to the charpie, carbolic acid, etc. If greatly developed fungous granulations are present, they should be cut with the scissors down to the base and the bleeding points touched with nitrate of silver. In rare cases will be obliged to resort to Dupuytren's radical operation, that is, inserting pointed end of scissors beneath the nail, divide it into two parts, firmly seizing the diseased side of the nail with pliers, and pulling it out. The nail usually reappears. A great object in in-growing toe-nail is to give the feet all necessary room. In the early stage, when there is no considerable mass of overhanging integument or fungous granulations, pressure of the nail on the soft parts may be relieved by packing into the groove on the affected side, oiled cotton wool with the flat end of a probe or penknife. This may be done without pain. The quantity of wool may be increased at each application, until the soft parts are raised and pushed aside. The free edge of the nail is exposed, beneath which wool should be inserted until the natural state is restored. Nails

[2] British Medical Journal, 1865, p. 48.

should be allowed to grow so as to form a right angle at the outer corner. If much inflammation, the toe may be kept in water dressing during treatment. Overlapping integument kept in natural relation to the nail by strips of adhesive plaster. Dr. Tilbury Fox says, "In-growing toe-nail is easily cured by softening it and then scraping off as much as possible, so as to thin it in the middle." A similar plan may be adopted to remove splinters imbedded in the nail. Nail scraped thin over the splinter and then cut through. It can in this way be painlessly removed. When the nail cuts deeply into the flesh, causing ulceration and fungous granulations, remove it at once, using ether spray or cocaine. Dupuytren's method, as described above, is the one usually employed by surgeons. Nails may be cut by knife instead of dividing by scissors. Some surgeons prefer to remove the whole nail.

Dr. Monks has kindly called my attention to Dr. Cotting's, of Boston, method of treating in-growing toe-nail. Anything emanating from Boston is sure to bear the impress of sterling worth. It seems to me to be the most feasible of all methods. He removes the fleshy part of the toe at the side of the nail so that it will have nothing in which to imbed itself. It is no doubt well known to you all. In treating onychia, remove the nail by evulsion, then dress the ulcerative surface with Black wash, or the old standby, Abernethy's solution, iiʒ liq. potass. arsenitis ad aq. iʒ. Arsenic has a beneficial effect on onychia. Dr. Moreloose, of Ghent, was the first to recommend the powdered nitrate of lead in onychia maligna. It has afterwards been used with great success by Prof. Vauzetti, of Padua, and Sir William MacCormac, of London. It causes considerable pain when applied, but its results are excellent. In severe cases a great portion of the disease with nail may be sliced off. In syphilitic onychia Black wash is the remedy "par excellence." Amputation has occasionally been performed for the cure of onychia maligna. Tonics should always be given. Dr. Livinq recommends very highly the giving of arsenic in non-syphilitic psoriasis; a tonic will add to the effect. In the syphilitic, mercury is of course the remedy. Appearance of nail improved by filing down with sand-paper. Skin near the margin dressed with white precipitate ointment. We must trace and treat the etiological factors. If an eczema exists this must be treated on dermatological principles, diachylon ointment, etc. In stubborn cases, Prof. Geben recommended using vulcanized rubber stockings and gloves. With all these diseases associated with connective tissue and papillary hypertrophy at the terminal phalanges, pachyderma, ichthyosis, verucca, etc., little can be done except keeping the affected part clean, and removing injurious influences. When syphilis attacks the matrix, anti-syphilitics required; when animal and vegetable parasites are present, anti-parasitics indicated. Ulcerative perionyxis is one of the bugbears of surgical therapeutics. Iodoform and nitrate of silver might be tried. In defective nail-formation, endeavor to find out the causes and treat them. Build up the system with tonics. Pressure by means of the wax nail is useful here. In all cases we should see that the shoe is not at fault, that it fits well, not too loose nor too tight. If the patient is a baker, carpenter, etc., and liable to irritation of the fingers, it is well to surround the end of the phalanx with soft wax.

RECENT PROGRESS IN DISEASES OF THE NERVOUS SYSTEM.

BY PHILIP COOMBS KNAPP, M.D.

ARSENICAL PARALYSIS.

Dana[1] reports two cases of pseudo-tabes from arsenic: one, where the arsenic was given in large doses medicinally; the other, where a single large dose was taken with suicidal intent. Both patients had burning feelings and formication, and sharp pains in the legs. There was pronounced ataxia and loss of muscular sense. In one case there was some cutaneous anæsthesia; in the other, cutaneous sensibility was normal, but there was hyperalgesia. There was some muscular weakness, and static and locomotor ataxia. In one case there was optic neuritis, and in the other the fundus was normal. The cutaneous reflexes were normal, the patellar reflex absent or greatly diminished, and there was a partial reaction of degeneration.

The writer compares these cases with the pseudo-tabes of alcoholic subjects, and the pseudo-tabes that follows diphtheria, and thinks it very probable that the lesion in arsenical pseudo-tabes is also a multiple neuritis, and not a diffuse myelitis, as has been held by Seguin and others. The lesion in post-diphtheritic and alcoholic paralysis is known to be a neuritis, and arsenical paralysis resembles the other forms so closely as to render it probable that it, also, is due to a similar lesion. The writer gives a very full bibliography of the subject, and draws the following conclusions:

(1) A disease resembling tabes dorsalis may be caused by arsenic, either given medicinally, absorbed from wall-paper, or given in a single dose.

(2) Arsenical paralyses of this type, and arsenical paralyses of other types, are not due, at least as a rule — to a diffuse myelitis, as has been taught, but to a multiple neuritis.

(3) Arsenical paralyses, like those from diphtheria, alcohol, lead, and probably other infections and poisons, are of two types:

a. The ordinary mixed motor and sensory paralysis, the motor troubles and atrophy being more marked.

b. The pseudo-tabetic form, in which there is no pronounced motor paralysis, but marked sensory troubles, and especially ataxia.

EXOPHTHALMIC GOITRE.

In a case of exophthalmic goitre recently reported by Jendrássik,[2] beside the cardinal symptoms of exophthalmos, goitre, and tachycardia, together with tremor and restlessness, there were also noted paralysis of the ocular muscles, of the facial and masticatory muscles, and, to a lesser degree, of the muscles of the pharynx and of the upper extremity. The writer satisfied himself that this paralysis was nuclear, and not peripheral — an external ophthalmoplegia, due to disease of the nuclei in the medulla, a polioencephalitis superior (Wernicke), or, as he prefers to call it, poliomyelencephalitis superior. He questions whether the presence of the symptoms of exophthalmic goitre and of ophthalmoplegia are due to a mere coincidence. He cites other cases like the one reported, and suggests that exophthalmic goitre may be due to disease of the medulla or mesencephalon. Since three distinct and

[1] Brain, January, 1887.
[2] Arch. f. Psychiatrie, xvii, 301, 1886.

distant parts of the body are involved, the lesion must be located in some place where the different efferent nerves lie near one another. He contests the theories that exophthalmic goitre is a general neurosis, or a lesion of the cervical sympathetic, and claims that it is due to a central lesion, located in the medulla or mesencephalon. The fact that only one or two of the three cardinal symptoms may be present is explained by supposing that only one or two nuclei are involved. Various cases of exophthalmic goitre show, moreover, that there are not infrequently symptoms present which point to a bulbar lesion — ophthalmoplegia, diabetes mellitus, etc. — and, in other cases, the existence of muscular atrophy shows that the nuclei in the cord are also affected. The writer, therefore, believes that in this disease there is a constant and circumscribed lesion of the gray matter in the medulla, about at the level of the nucleus of the facial. This theory is further corroborated by the experiments of Filehne, who found that injury of the anterior fourth of the restiform body was followed by the three cardinal symptoms of exophthalmic goitre.

TABES AND SYPHILIS.

Strümpell has recently published[3] a valuable study of the relation between syphilis and tabes and paretic dementia. The very large percentage of syphilis in patients with tabes has long been recognized, although the relation between the two diseases has not been determined. Tabes is not, however, a true tertiary manifestation of syphilis, for the anatomical process is unlike the syphilitic gumma, there being no new growth of cells, but only a degenerative atrophy. Tabes, moreover, is not amenable to anti syphilitic treatment. The connection is not direct. In other infectious diseases, however, we see a similar phenomenon — nervous after-symptoms, undoubtedly connected with the previous disease, as, for instance, the simple degeneration of nerves after diphtheria, which has nothing to do, anatomically, with the croupous-diphtheritic disease of the mucous membrane. This does not depend upon the organized agents of diphtheria; the bacilli do not attack the nerve, but a chemical poison is formed, of which we know nothing. The same holds true of typhoid, dysentery, etc. Tabes is also a nervous after-disease. The lesion is distinct from syphilis, and is not due to the action of the syphilitic cocci. The period of time between syphilis and tabes, however, is very variable, and tabes never recovers, as diphtheritic paralysis does. Syphilis, however, unlike diphtheria, is a chronic, infectious disease, which has a long latent period; the tertiary manifestations appear five or ten years after health has apparently been restored, and so the chemical agents may long lie hidden. This is also true of the other chronic infectious diseases, tuberculosis and lepra, where neuritis may develop late. Tabes does not always advance; it may stand still. In its treatment, although anti-syphilitic remedies are of no more effect on the tabes than painting the fauces on diphtheritic paralysis, they do have a favorable influence in that they check the advance of the disease by counteracting the agencies which keep the poison going. The same arguments hold true for paretic dementia, which Möbius calls "tabes of the brain." The localization of the action of the poison differs, just as in pharyngeal diphtheritic paralysis and diphtheritic ataxia. All cases of tabes, however, are not due to syphilis. Different poisons may act in the same way, just as we see multiple neuritis following alcohol, tuberculosis, typhoid, or some special infectious agent.

[3] Neurolog. Centralblatt, October 1, 1886.

AMYOTROPHIC LATERAL SCLEROSIS.

Charcot and Marie have reported[4] two cases of amyotrophic lateral sclerosis in which careful autopsies were made. They were both typical cases with spastic phenomena in the lower limbs, muscular atrophy beginning with the thenar muscles, and bulbar symptoms. At the autopsy they found a total disappearance or a diminution in the number of the large pyramidal cells in the cortex, in the central convolutions and the paracentral lobule, and also a certain number of granular bodies. These granular bodies were found in the white substance throughout the pyramidal tracts, from the cortex to the anterior cornua, and their presence is thought to be an earlier and more trustworthy sign of disease than the presence of sclerosis, even as revealed by the best and latest methods of staining. The disappearance or atrophy of the motor cells of the anterior cornua in the cord was of course also confirmed. The morbid process in the pyramidal tracts in the cord was found to extend beyond the limits of the tract as defined by secondary degeneration, which was thought to be due to an extension of the inflammatory process to the adjacent fibres. A slight degree of sclerosis was also noted in the columns of Goll.

Koschewnikoff[5] reports an autopsy on a case with atrophy of the muscles of the neck, shoulder, and upper arm, increased tendon reflexes, and bulbar symptoms. He found degeneration of the peripheral nerves, atrophy of the motor cells in the anterior cornua, and many granular cells in the anterior and lateral columns. Granular cells were also found in the pyramidal tract up to the gray matter of the cortex. On hardening the cord a degeneration was noted which extended beyond the limits of the pyramidal tract into the anterior columns. The nuclei in the medulla were also degenerated. In the gray matter of the central convolutions and paracentral lobule, he noted a great diminution of the giant pyramidal cells in the inner half of the cortex, and those that remained were distorted and atrophied. The small pyramidal cells in the upper half of the cortex had suffered no changes, and the lower portion of the ascending convolutions was nearly normal.

Charcot and Marie maintain that the morbid process may begin anywhere in the motor tract, from the cortex to the anterior horns, and may affect any region, either the medulla or the cord. This is in accord with the views of Strümpell, who holds[6] that labio-glosso-laryngeal paralysis, amyotrophic lateral sclerosis, and progressive muscular atrophy are merely clinical terms for different localizations of one and the same morbid process. Gowers[7] goes a step farther in claiming that a degeneration of the pyramidal tract exists in every case of progressive muscular atrophy that he has seen, or read a report of, since Charcot's original investigations on amyotrophic lateral sclerosis. This assertion is rather too sweeping, for Strümpell cites a case of progressive muscular atrophy where the pyramidal tracts were intact.

[4] Archives de Neurologie, July, Sept., 1885.
[5] Centralblatt f. Nervenheilkunde, 15 Sept., 1885.
[6] Text-book of Medicine, p. 617, 1886.
[7] Diseases of the Nervous System, Vol. I, p. 373, 1886.

CEREBRAL INFANTILE PARALYSIS.

Kast[8] reports two cases of this affection with autopsies which were made at an earlier stage than any yet reported — one of them being made only fourteen months after the onset of the symptoms. In both cases there was a wasting of the convolutions of the brain on the side opposite to the paralysis, and the microscope revealed a degenerative process, a disappearance or diminution in the number of the ganglion cells, especially the small pyramidal cells in the second and third layers. There was also a decided increase in the neuroglia, together with an accumulation of spider and granular cells, which extended down into the white substance. The hemisphere on the affected side showed a decided arrest of growth. The writer, on the strength of these autopsies, considers that Strümpell's hypothesis of a poliencephalitis incomplete, as there is also a leuko-encephalitis. He also failed to find the peri-vascular changes regarded by Jendrássik and Marie as the initial process, or any traces of the venous thrombosis, which Gowers has long considered to be the morbid change giving rise to these atrophic conditions of the brain.

HYSTERICAL HEMIPLEGIA.

Oserezkowski, in a recent thesis,[9] has called attention to the following diagnostic points in the distinction between hysterical and organic hemiplegia:

(1) Hysterical hemiplegia developes most frequently after some psychical irritation.

(2) It often comes on as a monoplegia, and may be distinguished from the organic form by severe disturbances of sensibility, contractures, etc.

(3) In hysterical hemiplegia the peripheral parts are less paralyzed than the central parts, and the small joints are less affected than the large.

(4) Mobility returns soonest in the peripheral and small joints. The opposite is the rule in organic hemiplegia.

(5) The face and tongue are rarely paralyzed. (Charcot says that facial paralysis may be simulated by spasm of the opposite side of the face, and Roth, in the discussion on Oserezkowski's paper, thinks there is a real hysterical facial paralysis.)

(6) Anæsthesia is parallel with the paralysis.

(7) The distribution of the anæsthesia is peculiar. In full hemianæsthesia the hand and foot may be free.

(8) Aphasia is rare, and is replaced by dumbness.

(9) Hemianopsia is very rare.

(10) The diagnosis of hysteria is based on anæsthesia of the fauces, polyopia, transfer phenomena, hysterogenous zones, etc.

MUSCULAR ATROPHY IN HYSTERIA.

Babinski has recently reported[10] a series of cases which, in his opinion, seem to show that, contrary to the current belief, trophic troubles may be present in hysteria. The cases all had paralysis, and hemianæsthesia, most pronounced in the paralyzed limb. In most of the cases there was also contracture, and in one there was loss of smell and taste on the affected side with peripheral limitation of the field of vision. In all the cases there was a simple muscular atrophy of the paralyzed limb, with a diminution of two or three centimetres in circumference. In one case a magnet produced transfer and return of sensibility. The atrophy diminished as the arm regained its power. From the anæsthesia, the variations in the amount of contracture, the transfer phenomena, and other manifestations of hysteria, the writer decides that the atrophy also was of hysterical origin, due to a functional neurosis, a purely dynamic alteration in the trophic centres.

"DIFFUSION" ELECTRODE.

Adamkiewicz has recently devised[11] a new form of electrode to be used in the treatment of neuralgias for the purpose of obtaining local anæsthesia. It was his object to aid the action of the constant current by adding some medicament whose absorption might be furthered by the kataphoric action of the current itself. For this purpose he tried chloroform, but found that with the ordinary electrode he could not keep enough chloroform constantly applied to the skin to get any anæsthesia, owing to the rapid evaporation. He, therefore, has contrived a hollow, metallic electrode, closed by a carbon plate. The hollow chamber is filled with chloroform, the electrode itself is covered with flannel as usual, and the covered carbon surface is applied to the skin. This electrode is made the anode, and a mild current, gradually increased to 5–7 ma., is passed through the patient for five minutes. The local anæsthesia thus produced is well-marked, and affords great relief, especially in trigeminal neuralgia. Paschkis and Wagner have criticised Adamkiewicz's work.[12] They claim that chloroform is an absolute non-conductor, and that a similar anæsthesia can be produced by the application of chloroform alone to the skin, that electricity adds nothing, and causes no kataphoric action whatever. Adamkiewicz, however, by subsequent experiments, has proven[13] that there is a much greater degree of anæsthesia produced by the combined application of chloroform and galvanism than by chloroform alone, while galvanism alone produces a slight increase of sensibility. There is, therefore, he claims, a true kataphoric action, and the new instrument is of value as an agent in producing local anæsthesia in neuralgia.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

JUNE 11, 1887, the President, DR. WILLIAM L. RICHARDSON, in the Chair.

DR. ROTCH gave an abstract of a paper on

THE ARTIFICIAL FEEDING OF INFANTS,

which he had read before the Society at the last preceding meeting. Further investigation, he thought, was called for in regard to this subject, for a number of reasons.

First: The great proportionate mortality of the artificially fed over the breast fed.

Second: The difficulty experienced by physicians, in certain cases, in regulating the digestion, resulting notably in a diversity of methods employed, and hence

[8] Archiv. f. Psychiatrie xviii, 427, 1887.
[9] Abstract in Centralblatt f. Nervenheilkunde, March 15, 1887.
[10] Archives de Neurologie, July, September, 1886.
[11] Neurolog. Centralblatt, May 15, 1886.
[12] Neurolog. Centralblatt, September 15, 1886.
[13] Neurolog. Centralblatt, November 1, 1886.

showing that no one method has been markedly successful.

Third: Infantile dyspepsia induced by errors in feeding, occurs at certain periods during the first year of life to a greater extent than in the intervening periods, and of these periods, the first, or that which is embraced in the early weeks of life, is the most important, because it is the time when the function of digestion is being established, and is in a state of unstable equilibrium, and therefore following the rule of functional establishment, the stomach is in its most active period of growth: and hence the most careful regulation of the bulk of the food given is needed to correspond to this activity, both to make the stomach digest the food in this period, and also, which is just as important, to avoid weakening the digestive function by too great taxation either in quantity or quality, and yet provide the proper materials for functional nutrition, thus avoiding by prophylaxis, the dyspepsia of the later periods of infancy and childhood, the seeds of which are continually being sewn in this early transitional period.

We, therefore, have the question not only of infantile digestion, but infantile development to deal with, and we must recognize at once that the quality of the artificial food is merely one of a number of factors which make up this problem.

Common sense and clinical experience teach us that nature must be our guide; but nature's method of feeding is a complex problem, of which the chemical analysis of human milk is only one factor, and hence it is a great mistake to simply try and copy this one factor in artificial feeding, as the other factors are equally important in making up the sum total of the problem, and we therefore can only, by endeavoring to copy the other factors also, expect to bring the mortality of artificial feeding anywhere near that of human feeding.

Although favorable results can be shown with almost every food, instances continually occurring where one food will fail and another, when substituted for it, succeed, yet these successes are merely temporary, the mortality always remaining far above that of human food. Cows milk is the universal menstruum of infant foods all over the world, and, as will presently be shown, is the actual food which the infant is getting; hence it is irrational and unfair to speak of and give the credit to the various artificial foods, when we really should speak of our general and universal menstruum, cow's milk, with its modification to a greater or less degree by certain adjuvants under the name of infant foods, which all supply about the same variety of ingredients and in common, such small amounts of these ingredients as to be of little benefit in nourishing the infant, and would not nourish it unless aided by cow's milk.

What are the factors of this problem which nature freely offers to us for investigation?

First, we find a receptacle, the human breast, which mechanically provides a fresh supply of food at proper intervals, absolutely prevents fermentation of the food before it enters the infant's mouth, forms the mouth by the process of sucking, and by the same process incites to action the necessary digestive fluids; again, by collapsing as it is gradually emptied, it avoids a vacuum, thus allowing the food to flow continuously, and practically is self-regulating as to the amount of daily food, according to age of the infant.

Second, the food itself, adapted to the infant's needs of digestion and development by its temperature 98 to 100 Fahrenheit, its alkaline reaction and its chemical constituents. Given these factors, how nearly can we approach them artificially? First, the receptacle. Human ingenuity has not yet been able to devise anything which approaches nature's receptacle, and the best that we can do to offset this perfect receptacle, complex in its mechanism, is to adopt that which is exactly the reverse; namely, a receptacle of absolute simplicity, and thus combat the tendency to fermentation through perfect cleanliness, preventing the receptacle from becoming a source of fermentation.

After various experiments with the glass blower, with a view to fulfil this end, I have had made and fitted, for convenience, to a box, what are practically enlarged test-tubes blown into a glass standard, and the interiors of which are entirely free from angles. They also are intended, by holding the proper quantity, which at certain periods should be given to the infant during the nursing period, to enunciate the importance of giving definite amounts of food in accordance with the age. This receptacle, however, has to receive a food which is non-sterilized, and hence the food itself should be sterilized in the feeding-tube before giving it to the infant. The sucking process is practically identical in both problems.

The artificial receptacle cannot collapse, but a small hole at the end of the feeding-tube, by allowing air to enter, prevents a vacuum being formed, and regulates the rapidity of the flow, while it allows it to be continuous.

The artificial receptacle is not self-regulating; hence we must first determine anatomically the amount which nature provides for the average infant at different ages, and from these average figures deduce the proper amount for the especial infant according to its age and weight.

. . . . . .

It is possible then, in artificial feeding to approach the standard human breast-milk much more nearly than is usually attempted, and there is no reason why clinical results should not be much improved if physicians will only take additional time and trouble to follow more uniformly nature's teaching. In all classes of life a much greater amount of time, expense and thought is given proportionately to the preparation of food for the adults of the family than for the infants, and this is a mistake, both from a humanitarian and an economical point of view, for the infant is much more susceptible to irregularities of diet, with their resulting suffering, than the adult, and when once the train of symptoms, usually called dyspeptic, is established, infinitely more trouble and expense is entailed, than if more exact methods of feeding were adopted before the digestion has been tampered with.

In the early weeks of lactation, after the mammary function has been fully established, it is well to have a number of analyses made of the mother's milk, and to keep the results as a control record to act as a guide for the preparation of an artificial food in case, as so frequently happens, something should occur to end the nursing at an early period, for it is highly probable that the digestive function of the individual infant may have certain idiosyncrasies which correspond to some idiosyncrasy in the percentages of its mother's milk, and in cases of difficult digestion where

the artificial food, which has been made to correspond to the analysis of average woman's milk, fails to agree, reference to this control-record may accomplish the solution of the problem sooner than if we had to ascertain experimentally by changing in turn the percentages of the different ingredients, in which ingredient the idiosyncrasy of this especial infant was to be found. The assistance of the skilled chemist is too little sought after in determining these questions of infantile digestion and nutrition, and in the future must necessarily be made use of, if there is to be any advance for the better in this subject of artificial feeding.

I have devised a simple apparatus for sterilization of artificial food among poor people; however, the sterilization can easily be accomplished by placing the nursing bottle containing the artificial food, and with a rubber cot fitted tightly over the neck of the bottle, in a covered colander on the tea-kettle. Sufficient sterilization is accomplished by the steam in from fifteen to twenty minutes, a longer time not being advisable, as, so far as my investigations have gone, certain chemical changes noticeable to the eye, take place, when the sterilization is prolonged beyond this time, while in twenty minutes, the food so far as can be ascertained by taste, sight and odor, is identical with the same mixture before it is exposed to the steam.

In the process of steaming in this way, ebullition does not take place, and chemical changes apparently do not occur in the food: this will, in all probability, in the future make sterilization of the food by steam preferable to that by boiling, especially as the former method is, if anything, rather more simple in its details than the latter, where the food is to be prepared from several ingredients, and simple cow's milk, which, as already explained, is not a proper food for young infants, does not represent the artificial food to be sterilized. Sterilization by steam has practically already been adopted in one of the Boston Dispensary districts, among a number of poor people, and in no instance which has been brought to my notice, have the mothers failed to understand the details or objected to it as being more troublesome than boiling.

Many interesting and instructive cases could be cited and must occur in the practice of every physician, illustrating the importance of not omitting the careful regulation of every factor of the problem, when we attempt to substitute an artificial food for the natural method of feeding, and proving that no one factor can be given undue prominence at the expense of the others, without in some way causing disturbance to the digestion and general nutrition. Making the food alkaline will at times rectify an otherwise intractable digestion; again, sterilization is the only change that is needed.

I have a number of cases showing the importance of a precise regulation of the fat percentage, and also of the sugar and the casein, while the food, although chemically correct, has often proved a failure because it was given in improper quantities or at irregular intervals.

Where an infant, then, is to be fed with artificial food, give precise directions as to the times of feeding, the amount at each feeding, and the apparatus which is to be used. See that the analysis of the food corresponds as closely as possible to that of human milk; give instructions as to the proper temperature of the food; see that the reaction is alkaline, and then if there is any difficulty with the digestion, sterilize the food. If this is not successful, refer to the control-record and adapt the food to any maternal idiosyncrasy shown by this record. If no control-record has been kept, experimentally try to discover the especial idiosyncrasy of the individual infant by changing the percentage of the fat, sugar, casein, or ash.

Dr. Abbot said that while he believed it was best for the stomach to do its own work when it was able, he had had very good results from peptonizing the milk when infants were unable to digest it without artificial assistance. He had found, however, that the peptogenic powder would do its work just as well in the stomach as when added to the milk some time before it was administered. His present method, therefore, was to add the powder to the warmed milk just before using it, and in this way no bad taste was developed in the milk, which to some infants is so objectionable. He believed it was unnecessary to use bicarbonate of soda where the peptogenic powder is employed; in fact, the milk was sometimes made thereby too alkaline, and in one case, to which he alluded, in which the prepared milk disagreed with the infant, the excessive alkalinity was obvious in the fæcal discharges. He believed the amount of lime-water usually added made the milk sufficiently alkaline.

Dr. J. Stedman said that it was very difficult to get good cow's milk; most of it was deficient in fat. He had found a considerable degree of idiosyncrasy in infants in regard to their food: sometimes twins will not do well on the same milk. He had lately used Robinson's barley with success; but the barley should be boiled for thirty minutes. He believed that the sterilization was very important, and inquired what was the effect on milk of boiling.

Dr. C. W. Townsend, present by invitation, said: Sterilization of milk by the process suggested by Dr. Rotch is most exact and scientific, but in that class of people where it is most needed even the more simple method spoken of by Dr. Rotch might be beyond their power to carry out properly. Boiling is, of course, the simplest method of sterilization, and one which the poorest and most stupid could carry out, but the question naturally arises as to what effect this process has on the character of the milk. Boiling kills not only the disease germs and putrefactive bacteria, but, according to Newton and Wallace,[1] changes and drives off tyrotoxicon, one of the poisonous ptomaines produced by these bacteria. This takes place at a temperature of 180° F.

What are the chemical changes that take place in the process of boiling milk? The odor and taste are decidedly changed, and this to some adults and older children may make boiled milk unpleasant, but infants, in my experience, rarely object to it. This peculiar taste is due, according to Schreiner,[2] to the sulphuretted hydrogen which is evolved; there is also a diminution in the gaseous constituents of the fluid, and a change in the amount of ozone present. As the boiled milk cools in contact with the air, a scum forms, which is the albumen coagulable by heat entangling in its meshes a certain amount of fat. This coagulable albumen, according to Winter-Blythe, equals one-fifth of the casein in amount.

As to the effect of boiling on the digestibility of

[1] Philadelphia Medical News, September 25, 1886.
[2] Chem. Centralbl., iii, Folge ix.

milk there is a difference of opinion. A general idea is that boiled milk is more constipating than raw milk, but the accuracy of this statement is open to doubt. According to Skreiner and to Randolph,[3] boiled milk is more quickly coagulated by acids than raw milk, while the reverse is the case with regard to the action of rennet. Randolph found that raw milk was more readily digested artificially than boiled milk. He came to the same conclusion by experiments on natural digestion. This he did by syphoning out the contents of the stomach of healthy men at various intervals after the ingestion of weighed amounts of raw or boiled milk. Reichman,[4] however, in a series of similar experiments on living subjects, arrived at a directly opposite conclusion; namely, that boiled milk was more easily digested than raw, and that this difference was due to the fact that in the stomach boiled milk forms smaller and softer curds than does raw milk. Dujardin-Beaumetz [5] disagrees with both of the above investigators, in that he finds no difference between raw and boiled milk from the point of view of digestibility. He refers to Pinard, however, as saying that prolonged boiling peptonizes a part of the albuminoid substances contained in milk.

DR. BUCKINGHAM, present by invitation, said that he had supposed that boiled milk was partly predigested by fire; and that there was to this extent the same objection to its habitual use that Dr. Rotch had urged against the use of predigested foods in general. For this reason, as well as on account of its taste, he had never made use of it.

The case referred to by Dr. Abbot is an example of the bad effect of making the milk too alkaline, which is as great a departure from the normal percentage as is making it too slightly so. He had himself had the same experience. It is, however, well recognized that the human milk is more alkaline than cow's milk, a fact which he had verified for his own satisfaction the preceding summer, by testing with litmus the milk of every woman who brought a nursing child to the Children's Hospital Medical Clinic, during a period of several weeks. With the exception of three women whose children were very sick, the milk was uniformly strongly alkaline. Cow's milk, as we get it in the city, is not uncommonly neutral, or but slightly alkaline, sometimes acid.

The speaker continued, that the paper of the evening had been of great use to him personally, by its demonstration of the reason for the undeniable success of some of the patent foods, foods of which the construction appears at a superficial glance to be entirely irrational. The correctness of the reader's position that the child is not fed with this, that, or the other so-called food; but with milk more or less modified by the addition made to it, is shown conclusively by the reasoning of the paper. It is also shown by clinical experience in cases where, mislead by names, a so-called food has been given to the child without milk. He had, himself, seen a bad case of rickets, apparently caused by the continued use of Mellen's Food, with little milk, in a patient whose surroundings were good, and cases of starvation from the similar use of that of Ridge's Food, appear every now and then at the children's clinics. These cases generally improve on the addition of milk.

Another point of great interest in the paper, is the sterilization of milk. We are hardly in a position to say that milk should always be sterilized, as it is probable that most babies can eat a considerable number of bacteria, at least of certain kinds of bacteria, without appreciable harm; but, on the other hand, within the past two years a number of papers have appeared, whose authors believe that they have succeeded in checking the diarrhœa of babies by the use of disinfectants. If these observations are correct, as it is likely that they are, sterilization by heat seems preferable to the use of drugs.

The Russian statistics, quoted by Dr. Rotch, are certainly very striking, and equally so whether we consider that the child adapts itself to the breast, or the breast to the child. It is not unreasonable to hope that their study has increased our power of treating the indigestion, and promoting the development of artificially-fed infants. If this be so, then the tubes shown this evening must prove convenient by their graded sizes, as well as by their form, which enables them to be easily cleaned.

DR. ROTCH, in conclusion, remarked that the mortality of the artificially fed is so much greater than that of breast-fed infants, that we cannot be too exact in our preparation of artificial foods, and that even if cow's milk alone was a fit food for the infant, which he had endeavored to show in his paper, was not the case, he should deem it unwise to interfere with the percentage of the ingredients for the purpose of sterilication as is done in boiling, for sterilization is only one of the factors of the general problem, and no one factor must assume undue prominence at the expense of the others, as he had already stated. Moreover, where a mixture of several ingredients is made to correspond to the analysis of human milk, we destroy the intention of this analysis by either steaming too long or by boiling, and we do not ever know to what extent we have tampered with the analysis, so many chemical changes at once arise.

[3] Philadelphia Medical News, June 21, 1884.
[4] Zeitsch. für Klin Med. ix, 1885, p. 565.
[5] Boston Medical and Surgical Journal, August 5, 1886.

SUFFOLK DISTRICT MEDICAL SOCIETY.
SURGICAL SECTION.

G. H. MONKS, M.D., SECRETARY.

MEETING, Wednesday evening, April 6th. DR. J. C. WARREN in the Chair.

DR. J. LESLIE FOLEY read a paper on

MORBID CHANGES AND SURGERY OF THE NAIL,[1]

and exhibited diagrams representing the various diseases. The discussion, which followed the reading of the paper, was chiefly confined to the treatment of in-growing toe-nail.

DR. G. W. GAY believed that no operation for radical cure could give greater satisfaction than Cotting's operation. He also spoke of the value of the nitrate of lead in all fungous granulations, malignant or otherwise, and said that it would frequently remove them efficiently, quickly and painlessly.

DR. MIXTER emphasized the importance in Cotting's operation of removing enough tissue. He considered that there was more likelihood of too little rather than too much being removed.

DR. CHARLES PUTNAM spoke of a little device, which was occasionally of use in holding up the in-growing side of the nail.

[1] See page 301 of the Journal.

Dr. J. C. Warren called attention to the sort of shoe which a patient with in-growing toe-nail should wear; and stated that the great point was to have the heel held well back in place by a good steel shank and a tight lacing, so that the toes might be free from pressure from all sides. His experience had been that women are more subject to in-growing nail, than are men, and he was inclined to attribute this greater frequency in women to the use of high-heeled boots.

Dr. Warren then showed a patient upon whom he had performed three months previously the operation of

GASTROTOMY FOR THE RELIEF OF ŒSOPHAGEAL OBSTRUCTION DUE TO MALIGNANT GROWTH.

Dr. H. L. Burrell then gave a *résumé* of

FOUR MONTHS' EXPERIENCE IN MINOR SURGERY AT THE BOSTON CITY HOSPITAL.[1]

Dr. Gay had expected that Dr. Burrell would speak of the radical cure of *hydrocele* by the injection of the compound tincture of iodine. He, himself, had had excellent results from its use. The hydrocele should be tapped and after the fluid had escaped the tincture of iodine should be injected, and that in turn allowed to flow off, after which the patient could with no especial danger keep about as usual.

He also spoke of the probable frequency of *deep varices of the leg* and of the rarity with which they are diagnosticated in the so-called "painful legs."

Dr. Gay agreed with Dr. Burrell that cotton-batting was good for *padding splints*, but said that for the correction of deformity, something firmer should be used, and that perhaps old linen was the best thing to be had.

In regard to a diagnosis between a doubtful case of *Colles' fracture* and a *sprain of the wrist-joint*, he stated that he had frequently found that in fracture lateral pressure over the ends of the bones caused most pain, while with antero-posterior pressure the pain was more marked in sprains.

He thought that if the diagnosis was doubtful, and the patient was an adult, it was better to treat the case as though a fracture existed.

Dr. A. T. Cabot, speaking of the diagnosis between a *Colles' fracture* and a *sprain*, stated that his custom had been to determine whether the greatest tenderness existed over the joint or over the radius above the joint; and that if it was most marked over the joint the case was probably one of sprain, if over the bone one of fracture.

In the treatment of fracture he laid stress on the importance of letting the fingers free as early as possible, so as to avoid subsequent stiffness.

In the treatment of *chronic ulcers*, he spoke of the value of elastic pressure over an absorbent dressing. The pressure would squeeze out the fluid from the granulations, and this would be absorbed into the dressing.

Dr. M. H. Richardson said that the prominence on the palmar surface of the wrist, so frequently noticed after *Colles' fracture* was generally considered due to bony callus principally from the lower end of the upper fragment, rather than to any inflammatory exudation around the flexor tendons.

He considered that whatever splint was used, care should be taken not to compress the superficial veins more than necessary; and he did not doubt that much of the œdema so frequently seen was due to improperly distributed pressure.

He could not remember to have seen a case of *teno-vaginitis* in the flexor tendons. In his experience with this disease it had been confined to the sheaths of the first two extensor tendons of the thumb.

Dr. E. H. Bradford called attention to a steel sole for the palliative treatment of *flat-foot*. This sole, having been carefully made to fit the bottom of the foot and to press up the arch slightly, should be covered with leather a little larger than the steel sole, so that the sharp edges of the latter should be covered by the projecting edges of the former, so as to protect the foot. The whole should then be put inside the shoe.

Dr. Inches said that at his clinic at the Boston Dispensary the maximum length of treatment for a *Colles' fracture* was eight weeks. The mobility, however, was not in any case restored as soon as the splints were removed, as the inflammatory stiffness existed for a very long time.

Dr. S. J. Mixter, in the treatment of *ulcers*, preferred a dry dressing to a wet one, but he was cautious about using iodoform in chronic ulcers, on account of the danger of dermatitis.

Dr. Watson said that there was one principle in the treatment of *chronic ulcers of the leg*, which he thought hastened the healing process materially. The analogy was seen in the freezing of a sheet of water. If the water were smooth the skimming of its surface with ice went on more rapidly than if it were thrown into an uneven surface by the wind. In the same way if the surface of the ulcer were made flat and smooth, the epithelium would extend across it more rapidly than if, like the rough water, its surface were occupied by granulations, and the open surface were above or below the level of the surrounding skin, as in the exuberant or indolent ulcer respectively. It had, therefore, been his practice in such cases as required it to secure this condition by the application of a shield of sheet-tin on top of the ulcer to bring the surface even with the surrounding tissues. The dressing was known at the City Hospital as the "Tin dressing," and its method of application was as follows: The ulcer and surrounding surface were soaked in corrosive sublimate, 1 part to 4000, and thoroughly cleaned, a bit of protective was then placed upon the surface of the ulcer, covering a little more surface than the ulcer actually occupied, protective or some substance having a perfectly smooth surface was used in order that the new epithelium, which shot in from the edges over night, so to speak, should not be pulled off by adhering, as it did to cheesecloth or compress or anything having a meshwork woven surface. The tin made to fit the surface on which it was to lie is then placed on the protective, and the whole, as well as the surrounding tissues covered with a dry corrosive sublimate gauze dressing, which was held in place by an evenly-applied bandage extending from toes to knee.

Ulcers which had been lagging for days beforehand would often take a rapid start under this dressing.

In regard to the location of *teno-synovitis*, Dr. Watson said that he had seen it occur in connection with the tendons of the tibialis anticus, and with the tendo achillis.

Dr. H. W. Cushing, referring to the differential

[1] See page 297 of the Journal.

diagnosis between *Colles' fracture* and a sprain, stated that he relied principally on the relative positions of the styloid processes of the radius and ulna, and called attention to the fact that in fracture the styloid process of the radius is apt to be displaced somewhat upwards so as to be oftentimes on a level transversely with that of the ulna.

DR. CONANT spoke of the tendency of a dorsal deformity to occur as a result of this fracture, even after the splints have been removed.

As to the danger of dermatitis from the use of *iodoform*, he had found that it could be avoided by confining the iodoform within the limits of the raw surface.

DR. WARREN had also found an altered relation in the position of the styloid processes of the radius and ulna of use in making a diagnosis of a *Colles' fracture*.

He considered the breaking up of the impaction, a step of great value in the treatment. He used a grip which he had learned from Dr. R. M. Hodges. While the hand of the patient was firmly grasped by the same hand of the surgeon, the surgeon's other hand grasped the lower part of the forearm, just above the wrist, and the thumb exerted pressure over the lower end of the radius, and thus, by manipulating with the hand in this position, the impaction were broken up. His experience had led him to believe that the after deformity was rather apt to be lateral than anteroposterior, and that this deformity was best avoided by the early and careful placing of pads. He also referred to the excellent results following the judicious use of massage in the after-treatment of the stiffness following fractures near the joint.

As for *chronic ulcers*, he thought rest the most reliable curative agent, and referred to the practice of Malgaigne, who prescribed such enormous poultices that the patient could not get about, and was, therefore, obliged to rest. He would, however, not underrate the value of pressure.

DR. O. K. NEWELL demonstrated the facility with which short instruments could be introduced into the bladder, and in connection showed a

MODIFIED URETHRAL DIVULSOR.

Remarks were made by DRS. CABOT, WATSON and TILDEN.

[Special Report for the JOURNAL.]

THE NINTH INTERNATIONAL MEDICAL CONGRESS.[1]

SECTION ON GENERAL SURGERY.

GUN-SHOT WOUNDS OF THE ABDOMEN,

by DR. T. H. MANLEY, of New York.

The case was reported of J. C., brought into the Hospital with a pistol-shot wound of the abdomen, in the left epigastric region. The patient was seen two hours after the injury. The abdomen was greatly distended, and evidently contained fluid. The wound was probed with great care, but the place of entrance into the abdomen could not be found. An incision was then made in the linea alba. When the peritoneum was punctured, a large amount of blood escaped, estimated to be half a gallon. The hæmorrhage was found to come from a branch of the inferior mesenteric artery. This was secured with a ligature. A double perforation was found in the descending colon. This was closed with the Lembert suture, including only the serous and muscular layers. The bullet was not found. The abdominal incision was closed and dressed antiseptically. It, however, failed to unite. In other respects the patient did well. The incision was again closed, the peritoneum being united with a separate row of sutures and the other layers with silver wire. On the third day it was found that the central portion of the wound had opened, but that the peritoneum had united. The patient eventually recovered completely.

The speaker then made some general remarks with reference to operations upon the abdomen. Severe shock should be a contraindication. Nothing will justify laparotomy when shock exists, except positive evidence of hæmorrhage. Opening of the abdominal cavity in man is a much more serious operation than in women. Man habitually uses the abdominal muscles in breathing, while in woman, the type of breathing is thoracic. This interferes with the union, and thus tends to make ventral hernia more common in man. In man, the abdominal incision should be no longer than necessary. For exploratory purposes, the incision through the linea alba is the best. The drainage-tube can serve no useful purpose in the healthy peritoneum free from septic contamination, and does interfere with union. Antiseptics should be always used until it is shown that cleanliness will render septic poisoning impossible.

THE USE OF THE GALVANO-CAUTERY SOUND, PARTICULARLY IN HYPERTROPHY OF THE PROSTATE, WITH REPORT OF CASES.

by DR. ROBERT NEWMAN, of New York.

The instrument consists of a smooth sound, with a fenestrum at its lower extremity. At this opening is a piece of platinum wire, in connection with a galvano-cautery battery. By pressing a key in the handle of the sound, the platinum wire is heated to a bright red color. This does not destroy tissue. The instrument is introduced until the lower extremity reaches the prostate gland, when the current is passed through the platinum wire. These applications are repeated at intervals of three to five days. The author has employed this method of treatment in fifteen cases, seven of these being cases of hypertrophy of the prostate gland. In all these instances there was improvement in the symptoms presented, and a decrease in the size of the prostate.

The next paper was entitled

ENDO-CRANIAL SURGERY,

by PROFESSOR DURANTE, of Rome, Italy.

(The paper was read in French.)

BONY UNION AFTER INTRA-CAPSULAR FRACTURE OF THE NECK OF THE FEMUR,

by DR. CARNOCHAN.

The reader presented the specimen from a case of fracture of the neck of the thigh bone, occurring in an old lady seventy years of age, in which bony union followed rest in bed for a period of nine months.

DR. MORRIS, of New York. The treatment by rest in bed is not to be recommended as a general practice in cases of intra-capsular fracture of the femur. Unless the fracture is an impacted one, there is no hope of union, and the sooner these patients are gotten out of bed the better.

[1] Concluded from page 288.

UNUNITED FRACTURE OF THE FEMUR SUCCESSFULLY TREATED BY DOUBLE SPLICE AND WIRED CLAMP,

by DR. F. LEMOYNE, of Pittsburg.

The method of treatment described had been employed in three cases. In two cases the humerus was the seat of operation, and in the third, the case to be described, the femur was the bone operated upon. The patient, a man aged thirty-seven years, was struck by a bucket of ore, receiving a fracture of the left femur, about its middle. This was treated in the usual manner, but union failed to take place. The various procedures employed in cases of ununited fracture, such as drilling, cutting off the ends and wiring, were tried, but no union followed. Eight months after the accident, the mobility at the seat of fracture was very distinct. The seat of fracture was then exposed by two incisions, one on the anterior, and the other on the external aspect of the limb. The fragments were found attached by firm bands of fibrous tissue, and the bone-tissues were softened. The fragments were completely separated, and the intervening tissue cut away. The lower extremity of the upper fragment was then sawed off, so as to form a wedge-shaped piece. The upper end of the lower fragment was sawed, so as to have a corresponding V-shaped depression. The extremities were then brought into apposition. A hole was made in each fragments so that the two openings were two and one half inches, apart. A steel clamp, its extremities being bent at right angles, was laid upon the anterior surface of the femur, the ends being inserted into the holes already prepared. This was secured to the bone by three bands of wire encircling the limb at the seat of fracture. The limb was placed upon a posterior-inclined plane, the foot being elevated about eight inches. Sole-leather splints were applied on the external, anterior, and internal surfaces, and the patient was kept as quiet as possible. High inflammatory action, with free suppuration, occurred. In five weeks there seemed to be some union, and the clamp and wire were removed. The wound was still kept in leather splints. One year after the operation, there was good union. The patient could bear his entire weight on the limb. There was, however, shortening to the extent of two and one-half inches.

DISCUSSION.

DR. T. H. MANLEY, of New York. I have had considerable experience in wiring the shafts of bones, particularly in fractures of the thigh. If there is much shortening, I think that we should wire the bone at once. We do no harm by making a free incision down to the bone, and the silver wire causes no irritation. I leave them in permanently, and the results have been satisfactory.

WIRE EXTENSION SPLINTS IN THE TREATMENT OF FRACTURES NEAR THE JOINTS,

by DR. GIBSON.

Several wire splints, intended to be used in the treatment of fractures of the thigh, fractures near the head of the humerus, and Colles' fracture, were exhibited. The author claimed for these, efficiency and comfort. He recommended their use more particularly in cases of fracture near the joints.

DR. MYERS, of Fort Wayne. I think that the best dressing for fractures that we now have is plaster-of-Paris and crinoline. When properly applied immediately after the reception of the fractures, it answers every purpose. It is less inconvenient than other dressings, and the results obtained are satisfactory.

SPLINT FOR FRACTURE OF THE LOWER JAW,

by DR. S. S. KOSER, of Williamsport.

The speaker reported a case in which the lower jaw was fractured through the symphysis and one inch left to the symphysis, with separation of both processes on the left side. Various forms of splints were tried without satisfactory results. An intra-dental splint was then made to which was attached steel arms projecting from the sides. An external rubber splint was then made and the two splints secured together. This held the fragments in position, and good union was obtained.

DR. ALBERT B. STRONG, of Chicago, exhibited drawings taken from the photographs of

FROZEN SECTIONS OF THE MALE PELVIS,

showing the relations of the peritoneum to the bladder, the rectum and the median line of the abdominal wall with special reference to supra-pubic cystotomy.

The Section then adjourned.

FRIDAY — MORNING SESSION.

The first paper was entitled,

A NEW METHOD OF OPERATIONS ON BONE,

by MILTON J. ROBERTS, of New York.

The author demonstrated his electric osteotome which consists of an electric motor to which may be attached trephines and circular saws of various sizes. By means of an attachment a saw is used having a to-and-fro movement. The motor is run by a storage battery. There is also an electric light with a mirror attached to the motor by which light is thrown on the part operated upon. In addition, there is also a spray apparatus operated by compressed air by which a constant spray is thrown upon the saw while in operation. This is found to facilitate the cutting. All the various attachments are under the control of one hand.

CALCULUS, IN SYRIA.

by Dr. GEORGE E. POST, of Beirut, Syria.

Stone is a common affection in almost every part of Syria and Palestine, but more frequent in certain villages than in others. The proportion of large stones is greater than it is either in Europe or America. This is to be explained by a number of causes; among others, the prejudice against surgical operations, the want of skill on the part of the surgeons, the ignorance with reference to the use of the sound, and the poverty and ignorance of the people, leading them to postpone operation as long as possible. To these is to be added the traditional faith in the solvent power of certain substances. The native surgeons, in operating, practice median lithotomy; the patient is placed on his back in the lithotomy position, without anæsthetics, and one or two fingers are introduced into the rectum. The stone is pushed forward with the fingers until it impinges on the perineum. The operator then cuts with a razor or a scalpel directly on the stone, the cut extending from a little behind the scrotum to within the anus, laying open not only the perineum, but also the lower portion of the rectum, and the stone pops out. This method of operation is of course productive of many cases of fistula of various kinds. There is also considerable risk from hæmorrhage. In one

case operated on in this way in infancy, the author found three stones in the scrotum and two in the perineum.

The largest stone removed by the speaker weighed about twelve ounces. It was four inches in length, three and one-half in breadth, and nearly two inches in thickness. This stone was removed by perineal lithotomy, and it was necessary to cut the prostate on both sides and also in the middle. The patient from whom this stone was removed did well for fifteen days, when as a result of imprudence in diet he was attacked with a colliquative diarrhœa and died seven weeks later from exhaustion. There was no unfavorable symptoms connected with the wound. The greatest number of stones removed from one patient was two hundred, but many of these were merely granules. In one case there were eleven stones of nearly equal size, and weighing in the aggregate about six ounces.

The author had operated on 250 cases. Less than one-half of the stones were composed of phosphates; over one-third consisted of uric acid and urates, and of the remainder the most consisted of oxalate-of-lime with a few carbonate-of-lime stones. One hundred and seventy-six of these cases were operated on by perineal lithotomy. Of this number ten cases proved fatal, 106 of the 176 were in children less than ten years of age. Two of these children died. One of erysipelas and the other of shock. The remaining 70 cases were between eleven and seventy-five years of age, and of this number eight died; four of the fatal cases were between sixty-five and seventy-five years of age. In 44 cases lithotrity was employed with a fatal result in four instances. Of the 250 cases eleven of the patients were females.

Two cases of urethral stone were reported. The first was that of a man of seventy, with phimosis. A stone was found at the meatus and removed. A second was found four inches from the meatus. This was also removed; a third stone was detected in the membranous portion of the urethra, but during the manipulations it passed into the bladder. Two or three days later it was caught with a lithotrite and removed. The second case occurred in a child two years of age, who was brought to the speaker on account of total retention of urine. The distended bladder reached above the umbilicus. An obstruction was found at the neck of the bladder, but it was found possible to pass a catheter over the obstruction. The urine was drawn for several days. It was then decided to make an exploratory section, but when the time for operation arrived, it was found that the stone had been dislodged and was at the meatus. It was then removed without difficulty.

DISCUSSION.

DR. J. A. S. GRANT (Bey) of Cairo, Egypt. I have listened with much interest to the paper, and it may be of interest to say something with reference to stone in Egypt. This is a very common affection in Egypt, where we have another common disease, that is, bilharzia hæmatobia. Certain investigations seem to show that the germs of this disease have something to do with the causation of stone. Sections of calculi have revealed the presence of the germs of this affection. The following case recently presented himself to me, The patient, a railroad employé, came with considerable inflammation of the scrotum and with a fistulous opening entering the scrotum. A large scrotal calculus could be readily seen. Six years previously the patient had suddenly had complete retention of urine. This continued ten days, and the trouble then suddenly disappeared. After this he noticed that the scrotum was gradually increasing in size. I made a large incision through the fistulous opening and removed from the scrotum a stone weighing fourteen ounces.

In Egypt we do not have the class of stone cutters referred to by Dr. Post. Egypt is divided into fourteen provinces, each of which has a hospital under the charge of a competent physician.

DR. OSCAR J. COSKERY, of Baltimore, reported a

CASE OF AN UNCOMMON FRACTURE WITH DISLOCATION OF THE TARSUS AND METATARSUS.

ELASTIC CONSTRICTION OF THE NECK WITH EXCLUSION OF THE TRACHEA AS A MEANS OF CONTROLLING HÆMORRHAGE IN OPERATIONS ON THE HEAD,

by DR. SENN, of Milwaukee.

The author referred to the many advantages derived from the use of the Esmarch bandage in operations on the extremities. In the case of the head where bloodless operations are most desirable we have, so far, not been able to attain that result. The principal objection to constriction of the neck appears to be the necessary compression of the trachea. It is also possible that the pressure on the pneumogastric and phrenic nerves may interfere with respiration. The author had taken dogs, and isolating the trachea, has passed an elastic bandage around the neck between the œsophagus and the trachea. This produced no immediate effects on respiration. In one case the dog was allowed to live two hours with the band around the neck and no blood going to the brain with the exception of that which reached it through the vertebral arteries. This animal was allowed to live and presented no subsequent symptoms. It was found that after the band was applied the lingual, the external, the internal and the common carotid could be divided without any escape of blood from the proximal extremity. The only arterial hæmorrhage was from the peripheral end through the collateral circulation. There is some venous engorgement, and as a consequence a certain amount of venous bleeding. By this method we can extirpate the tongue, excise the upper jaw, perform radical operations on aneurisms, especially on aneurisms by anastomosis, and do other operations that could not be done without it.

CONGENITAL DISLOCATION OF THE HEADS OF THE FEMORA,

by DR. CARNOCHAN, of New York.

Reference was made to the general lack of knowledge concerning this malady. The affection is, however, not an infrequent one. The author had seen seventy cases during the past twenty-five years. Drawings from several cases of this kind were exhibited, showing the peculiar deformity which this malady produced. The pelvis and femora taken from an individual sixty years of age, who was the subject of congenital dislocation at the hip-joint was shown. There were marked changes in the structure of the heads of the thigh bones and also in the acetabula, which were simply triangular cavities. As to the cause of this condition, it was uncertain whether it was due to rough handling or to want of nutrition.

DISCUSSION.

DR. MORRIS, of New York. It is evidently not due to rough handling, for it is quite frequent in the Northern part of Germany, where women receive skilful attention during confinement. The deformity is quite frequent where rachitic affections abound.

DR. GEORGE E. POST, of Beirut. I see this condition quite frequently. While one class of cases may depend on rachitis there is another class in which the condition is evidently the result of mechanical causes. In a recent case I found the head of the femur in the thyroid foramen; there was no history of injury. I can only explain these numerous cases disassociated from scrofulous and rachitic affections as due to some movement of the child in utero.

DR. SPANTON, of Hanly, England, exhibited a

PAD FOR RETAINING THE DISCHARGES IN CASES OF FÆCAL FISTULA.

DR. ARTHUR H. WILSON, of Boston, illustrated with the stereopticon, certain

HISTOLOGICAL PATHOLOGICAL CHANGES IN THE PROSTATE GLAND.

The last paper was entitled

ALCOHOL AS AN ANÆSTHETIC

by DR. JOHN E. LINK, of Terre Haute, Ind.

After an experience of twenty years, the author recommended the use of whiskey as an anæsthetic. He advised the use of full-proof whiskey at least two years old, giving from one to two ounces repeated every three to five minutes according to the rapidity of the absorption. The quantity given varies between sixteen and twenty-four ounces. The patient is then allowed half an hour to quiet down. If the desired effect is not produced a few inspirations of chloroform are given. The two agents combined give better results than either alone. A number of cases in which this method was employed were reported.

DR. KOSER, of Williamsport, offered a resolution to be forwarded to Professor Bilroth, congratulating him upon his recovery from his severe illness; adopted.

After extending a note of thanks to the President, the Section adjourned *sine die*.

AMERICAN GYNÆCOLOGICAL SOCIETY.[1]

TWELFTH ANNUAL MEETING.

TUESDAY. — FIRST DAY. — AFTERNOON SESSION.

IS SALPINGITIS TO BE TREATED BY EXTIRPATION OF THE TUBES AND OVARIES IN ALL CASES.

by DR. W. M. POLK, of New York.

By salpingitis the speaker meant that disorder whose most marked clinical expression is found in the presence of the peri-uterine masses so commonly met with in palpating the pelvic contents. The most common result of this condition is displacement of the tubes. The author had already made a report on one hundred cases of salpingitis. In fifty of these cases the abdomen was opened, and in fifty no section was made, but in these a comparison of the results of careful examination left no doubt that the whole series of one hundred cases represented the same disease. The majority of cases of salpingitis recover. Even where a small quantity of pus is present this may be encapsuled by lymph and do no harm. Some of the cases remain as confirmed invalids, while a few die. Outside of the puerperal condition the death-rate is low, and including antiseptic midwifery the death-rate is still low. The main symptom observed was dysmenorrhœa.

An examination of the cases coming under the author's observation led him to believe that the chief cause of the symptoms in many cases was the presence of adhesions. He had operated, removing the adhesions, but allowing the tubes and ovaries to remain, on the ground that although pregnancy might not occur, yet as their removal was unnecessary, mutilation could be avoided and one of the objections to the operation removed. The question whether or not the adhesions will re-form, must be answered by experience. The author reported eight cases operated on in this way. In case I, there was shortened utero-sacral ligaments, the posterior fossa of the uterus touching the rectum. The ligament was stretched, a drainage-tube inserted, and the patient did well. She had suffered for a long time from dysmenorrhœa and pain during coition, and other evidences of so-called cellulitis or chronic salpingitis. In the second case the uterus was retroverted and bound down by adhesions. These were torn, the tubes and ovaries loosened, and the uterus held forward by Alexander's operation, the object being to displace the uterus from its old position and prevent the formation of new adhesions. Within proper limits, the extirpation of the tubes and ovaries is a valuable operation. It is, however, desirable to confine it within its narrowest limits, and where it is possible to avoid mutilation, to do so.

DISCUSSION.

DR. A. MARTIN, of Berlin. We can only progress in this important matter by distinguishing between the different forms of disease of these organs. Ten years ago, I pointed out the anatomical forms of these different affections. In only a small number of cases is the tube the seat of a neoplasm. I have found only one case of carcinoma of the tube. The most frequent disease of the tubes is catarrhal inflammation, extending from the uterus. We frequently see it following the puerperal state. It has often been supposed that the salpingitis was of gonorrhœal origin, but only in a few instances have the gonococci been found in the tubes. In most cases the disease of the tubes is a simple benign affection; a catarrh which increases the size of the tube and may give rise to hæmorrhage, particularly at the time of menstruation, and occasionally to pyo-salpinx. Frequently, early occlusion of the tube is the result.

Only a small number of the two hundred and fifty cases coming under my observation have required operation. As in most cases the disease is a simple catarrh, we must first institute treatment adapted to the simple nature of the affection. If we do not succeed in relieving the symptoms and reducing the size of the tube, we are to operate. I have done eighteen operations for disease of the tube, but very seldom did the tube give me the occasion for the operation. Generally it was the spread of the disease to the other pelvic organs, particularly the ovaries. In many cases there was abscess of the ovaries. This severe complication is not observed with sufficient frequency as to warrant operation in all cases of salpingitis.

[1] Continued from page 290.

In operating in these cases, I puncture the tube before removing it. I do this because purulent matter often escapes into the peritoneal cavity from rupture of the tube. I cannot say that my statistics are as favorable as some. I have lost about twelve per cent. I never perform the operation except where there is a distinct tumor. In nearly all of the cases there was severe peritonitis. In the majority of cases, we can cure these patients by general treatment.

DR. T. A. EMMET, of New York. I hold much the same views as Dr. Martin. A large number of these cases can be cured by careful general treatment, and it is our duty to operate in no case until the woman has had an opportunity to see whether or not she can get well without operation. Where the disease of the tube is unquestionably of gonorrhœal origin, the operation may be resorted to at once. I am satisfied that two-thirds or more of the cases operated on to-day, will not be operated on five years from this time.

DR. WILLIAM GOODELL, of Philadelphia. I agree in a large part with what Dr. Martin has said. My rule is, to try in the majority of cases the effect of rest treatment, with general and local medication. It seemed to me that the author gives us an operation more dangerous than removal of the ovaries. What objection is there after the abdomen is opened, to the removal of the ovaries and tubes? This is not a mutilation. They are unable to perform their functions. Rather than resort to a second operation, such as Alexander's, I should favor the removal of the tubes and ovaries.

In cases of mal-position of the uterus, associated with disease of the tubes and ovaries, I have frequently righted the uterus, by introducing a pessary at the time the ovaries and tubes have been removed, and keeping it in during the process of recovery. The pessary may then be removed and the uterus keeps its position. I have had cases which improved temporarily under rest treatment, but in which I was finally compelled to resort to operation.

DR. G. BANTOCK, of London. The question which has been proposed, may be answered in the negative. My views have been well expressed by Dr. Martin. I never contemplate the removal of the ovaries without a great deal of anxiety. Ordinary cases of salpingitis, due to catarrh, can be cured by rest and constitutional treatment. When we come to pyo-salpinx and hæmato-salpinx, the conditions are different. A well-marked case of pyo-salpinx, whether due to catarrh or to gonorrhœal infection, will require operative treatment. I have, however, seen tubes which evidently had contained a large quantity of pus, but which when examined, contained only a small quantity of cheesy matter. It is rare to have death from the rupture of a pyo-salpinx. In hæmato-salpinx the condition is far more serious than in pyo-salpinx.

About one year ago, I had under treatment a case of fibroid tumor of the uterus. The patient suffered a great deal of pain, and I was induced to operate. I found numerous adhesions, and when I reached the brim of the pelvis, the adhesions were so numerous that I could not proceed. I therefore determined to remove the ovaries, and bring about the menopause. The left ovary was removed without difficulty, but when I came to remove the right ovary, it could not be found. Fluid was detected in the right side, and an incision showed that there was a fibroid tumor which had undergone cystic degeneration. The edges of the cavity were stitched to the abdominal wall, a large opening being left to facilitate drainage. In three months the patient was quite well. She subsequently married, and, a short time ago, was delivered of a living child. It is, therefore, clear that when the mischief arises from the outside of the tube, sterility does not necessarily result. When, however, the inflammation begins inside, sterility will probably be induced.

DR. R. S. SUTTON, of Pittsburgh. I agree that all cases of salpingitis should not be operated on, but if pus exists in the Fallopian tube, it is our duty to evacuate that pus, just as it is our duty to evacuate a collection of pus in the arm. No one has a right to allow a woman to go around with a pus-sac, ready to burst into the peritoneum, when we can remove it. The condition of life of the patient must be considered. A poor woman may require operation, while a rich one might be able to get along without operative measures.

DR. GILL WYLIE, of New York. In one thousand of my earlier cases of peritonitis and cellulitis, I operated about once in every ten cases. In later years, the proportion has increased. Of my last sixty cases, sixty per cent. were for pyo-salpinx, and all these cases have recovered. I should not be willing to try the operation suggested by the author.

DR. WM. M. POLK, of New York. The question which I considered was in regard to mutilation. A woman has a right to the ovaries if they do her no harm. Dr. Bantock's case shows that the presence of adhesions is not a bar to pregnancy. I think that the removal of the tubes is a most important operation, but we must avoid extirpation of the tubes and ovaries unnecessarily.

DRAINAGE AFTER LAPAROTOMY,

by DR. PAUL F. MUNDÉ, of New York.

While drainage is an accepted procedure in general surgery, its position in abdominal surgery is not yet settled. The author then quoted the opinions of various operators, showing the great diversity of views. If antiseptics can prevent the decomposition of fluids left in the abdominal cavity, the use of the tube can be dispensed with. So long as there is any doubt as to this, so long, at least theoretically, will drainage be called for. Some of the disadvantages connected with the use of the tube are: that the abdominal wound cannot be completely closed; there is danger of septic contamination through the tube; the liability to ventral hernia is increased; and there may occur serious reflex gastric irritation. Whatever good is done by the drainage-tube is probably accomplished within the first twenty-four hours. As soon as the fluid which escapes is serous or sero-sanguinolent, the tube may be removed. It has recently been recommended that, in cases where it is found impossible to remove the whole tumor, and a large cavity is left, a sac of iodoform gauze be made, and packed into every crevice of the cavity. This is then filled with narrow strips of iodoform gauze. This the author had employed with satisfaction. At the end of ten days, the dressing was perfectly odorless.

It was thought that when drainage seemed necessary, that the tube might be omitted, and the removal of fluid accomplished by an antiseptic gauze strip passed through the vaginal roof into the vagina. This permits of the perfect closure of the abdominal incision.

DISCUSSION.

Dr. A. Martin, of Berlin. I do not employ drainage after ovariotomy, for the absorbing power of the peritoneum is so great that it can dispose of a considerable quantity of fluid. I use drainage in only a few conditions. I use it when I remove the uterus by amputation through its neck. I use it in vaginal hysterectomy. I use it where there are large surfaces of a sloughing character, and large cavities left in the broad ligaments, as in extra-uterine pregnancy, in large fibroid tumors which have been enucleated, and in large cystic tumors, where all the surfaces cannot be brought in contact. In these cases I use the drainage-tube, passed through Douglas's cul-de-sac into the vagina, as I consider it important to close the abdominal wound.

Dr. G. Bantock, of London. So confident am I of the value of drainage, that I use it on the slightest provocation. I use it where there has been abundant adhesions, and where it is found impossible to completely dry the peritoneal cavity. I use it where the tumor has been burst, and it is impossible to remove all the contents. In these cases, I use large quantities of clean, warm water. I have given up everthing in the form of antiseptics. Since I have given up the antiseptic method, my results have correspondingly improved. In my last one hundred and four ovariotomies, I have lost three, and in the last seventy-eight I have lost one. While I value the use of the tube, I do not think that it is required in the majority of cases of ovariotomy.

The form of the tube is of importance. I employ the ordinary straight drainage-tube, to be introduced to the bottom of the wound. It should be emptied every two or three hours. This prevents any absorption of the effused fluids, and the patient recovers without any elevation of temperature, or any alteration in the pulse. When the fluid removed is nothing but plain serum, the tube may be taken away; but if it is removed before all blood has disappeared, great risk is run.

Dr. Gardiner, of Montreal. In thirty-five abdominal sections, I have used the drainage-tube in about sixteen cases. In sixteen ovariotomies, I employed it in eight or nine cases. I shall continue to use it until further experience gives me some reason to lay it aside.

Dr. Gill Wylie, of New York. One of the advantages of the use of the tube has not been referred to, and that is that it gives us early information as to the occurrence of hæmorrhage.

Dr. William Goodell, of Philadelphia. I am not a believer in the drainage-tube, although I do use it occasionally. In three or four cases, I have had colloid cysts rupture three or four weeks before operation, and when the abdomen has been opened, all the organs have been found covered with the colloid material. These cases recovered without the use of the drainage-tube. This was before the time of washing out of the abdomen. In a recent case of the same kind, I used the drainage-tube, and not more than three ounces of fluid escaped. I agree with reference to the great value of the tube as showing the presence of hæmorrhages. In one case a fæcal fistula occurred, and this I attributed to the presence of the tube.

Adjourned.

(To be continued.)

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THE POTATO IN ITS RELATION TO IRELAND'S MISERIES.

An anonymous writer in the *Westminster Review*, speculates as to the causes of Ireland's wretchedness. It is not over-population, for Ireland supports fewer people per square mile than England and Wales, Switzerland, France, Belgium, Saxony, or the Netherlands. It cannot be the lack of fertility of the soil, for the land of Ireland is proverbially productive. Nor can it be said that the aggregation of people in the land is the cause, for whilst Belgium, with only three and a half million acres under cultivation, supports one million of people by agriculture, Ireland employs but one million one hundred thousand for the cultivation of fifteen and a quarter millions of acres. Various other unfavorable conditions are suggested as accounting for Ireland's distress, but the reviewer regards as of the first importance the matter of diet. The Irish, as a nation, are miserably fed. To great multitudes of the Irish, the potato is almost the only means of sustenance. Now it is easy to show on physiological principles the impossibility of a nation thriving on potatoes. The writer fortifies his argument by citing tables from recent dietary works, showing the meagreness of potatoes in nitrogen and comments on the unfortunate choice which the Irishman has made in adopting as his staple food one of the worst vegetables grown — "a vegetable which does not furnish either sufficient carbon or nitrogen, except it be eaten in such inordinate quantities as to produce a sense of fulness which is not compatible with labor." "To eat twenty-four pounds of food each day in order to produce the same amount of energy as can be obtained from a couple of pounds of other articles low in cost and equally appetizing, can scarcely be called economy.

"A consideration of the dynamic value of foods leads to the same conclusion. Bread or oatmeal, to the value of three pence half-penny, would raise one hundred and forty pounds to the height of ten thousand feet, whereas five pence half-penny would have to be spent on potatoes for the same work. This, however,

takes no account of the nitrogen, of which element the potato is singularly deficient, and does not consequently give the true dietetic value of that root. In comparison with the cereals, it may be said roughly to be eight times as expensive to live upon potatoes as upon bread or meat. It must further be borne in mind that although the yield per acre of potatoes is of much greater value than that of wheat, the cost of growing the one (exclusive of rent rates, tithes and taxes) is within a fraction of double the cost of growthe other."

The reviewer refers to historical facts which show that far-sighted political economists predicted untold calamities for Ireland as the result of her too exclusive cultivation of the potato. William Cobbett foretold that the ruin of Ireland would be the cultivation of "that dirty root." "But before Cobbett, Adam Smith wrote on the adoption of the potato as the national food in a manner . . . which showed a complete grasp of the subject. He believed that the same extent of land which would grow food for one person in England would support four in Ireland . . . but *how* support? History furnishes the answer. While the people of England have been steadily progressing, living in increasing comfort as the years roll by, the people of Ireland have as steadily lost ground, the population decreasing, the number of paupers every year increasing, the housing of the masses becoming more wretched, their comforts fewer, famines more frequent; and as the natural result, popular discontent has long since reached a state which may be called chronic, and that which we call *agitation* is little more than the heart-rending cry of a generous people who live on the verge of starvation, with no prospect of immediate improvement, and absolutely no hope of the future."

Adam Smith deprecated the adoption of a potato diet for the following reasons: (1) Being incapable of storage, the cultivation produces dependence upon a single year's crop; (2) Scarcity and famine must therefore be of more frequent recurrence than would result from any other diet; (3) Its low value as a food must bring down the wages of the people to the standard of their diet; (4) Its bulk and weight render it unfit, in a large degree, for cultivation as an article of export.

A quotation from Smith (for which we are indebted to the reviewer), well illustrates these points. It is remarkable, by the way, how completely history has verified the theories of this great political economist; we need only to refer to the famines of 1846, 1854, and subsequently, with the wasting diseases which followed in their train, the enormous emigration draining the country of its very life-blood, and other national evils, physical and moral, making the evolution of the Irish people, during the greater part of this century, retrogressive rather than progressive.

"It is therefore of the utmost consequence to the well-being of every people and to their protection in years of scarcity, that they should not subsist principally on the potato. In Great Britain, the pressure of a scarcity is evaded by resorting to an inferior species of food and a lower standard of comfort; but if our people were habitually fed on the potato, this would be impossible. The chances of famine would thus be vastly increased; while, owing to the low value of the potato as compared with most other things, the laborers would have far less chance of acquiring a taste for animal food or other necessaries and luxuries, and consequently, of changing at any future period their actual condition for the better. For these reasons, it would seem that the rapid extension of the potato culture is by no means the unmixed benefit it is regarded by some."

Buckle, in 1859, wrote on the influence of climate and soil — the external environment generally — on the welfare of nations, and his work made a profound impression at the time, and many of his generalizations are regarded as just as true to-day as they were regarded bold and questionable when he wrote his "History of Civilization in England." Buckle, in showing that the spirit and character of a people are dependent on material circumstances did indeed touch upon diet but only incidentally and incompletely; it remains for some future philosophic historian, with a knowledge of physiological chemistry, from the same standpoint, to pursue the work of Buckle, and show the rôle of food in modern civilization. The material for such a survey is accumulating, and our countrymen, Atkinson and Atwater, are already making use of it.

TRANSFUSION AND INFUSION.

THE brilliant successes in saving life already reported have fully established the value of this method of relieving the alarming and dangerous condition of acute anæmia following excessive hæmorrhage, and have incited many experimenters to renewed investigations, which have added much important information to our previous knowledge of this subject.

The danger of direct transfusion, and the difficulty in obtaining a donor for this purpose, made it exceedingly desirable to discover some substitute equally efficient, and more easily controlled.

For this purpose Lauderer with Cohnheim in 1881,[1] made a series of experiments with the alkaline salt solution; but the conclusions arrived at were that its effects were transitory and unsatisfactory. Experiments with defibrinated blood were more successful; but the best results were obtained from a combination of defibrinated blood (1 vol.) with an alkaline salt solution (3 to 4 vols.) Animals which had suffered a blood loss of 5.3 per cent. of their bodily weight, and a case of severe nitro-benzole poisoning were successfully resuscitated. Schramm[2] has shown that a loss of blood equalling 5.4 per cent. of the bodily weight almost invariably results fatally, and fourteen experiments with infusion corroborated the above statement that the salt solution caused only a moderate and transitory cardiac irritation, and had no decided influence in preserving life after severe hæmorrhages. A summary of Schramm's work gives: Blood transfusion, 10 cases; blood loss, 5.3 per cent. 10 recoveries; infusion, non-defibrinated blood 1; salt so-

[1] Virchow's Arch., cv. 2, p. 351, 1886.
[2] Wien. Med. Jahrb., 4, s. 489, 1885.

lution 4; 10 cases, 5 deaths, 5 recoveries; infusion of serum or egg albumen and salt solution, 17 cases, 9 deaths, 8 recoveries, the albumen having apparently no effect in regenerating the blood.

He then concluded that the treatment of acute anæmia from hæmorrhage should be thus classified: (1) Analeptics; (2) salt solution infusion; (3) in cases of renewed collapse, blood transfusion.

Lauderer has, since his original report,[3] continued his efforts to find a substitute for human blood, and his more recent experiments[4] with an alkaline salt-sugar solution, show[5] more favorable results than with the simple salt solution originally used. He treated successfully a case of acute anæmia in a human subject, and demonstrated that animals treated in this way would recover after a blood loss of 5.5 per cent. even, which is strong proof of its efficacy. Experiments on animals poisoned with nitro-benzole and chloral were also successful.[6] The advantages claimed by Lauderer for this solution are: (1) That the fluid constituents of the tissues (Gewebssäfte) are energetically attracted to the blood. (2) That the blood tension is essentially increased: a very important factor in hæmorrhage. (3) The addition of an easily assimilated nutritive substance; namely, sugar, for which purpose the simple salt solution generally used, or even blood, has been shown valueless.[7] At the discussion of Gaule's report Krönlein's remarks referring to his own experience with infusion[8] confirmed Lauderer's views. Krönlein also classified the indications *ut. seq.*: (1) Altered vascular tension; (2) altered nutrition of tissues; (3) interference with the function of the hæmoglobin. In the two later he considers that infusion of simple salt solutions is valueless. In (3), for example, carbonic acid poisoning, blood transfusion would be required; but this view is somewhat at variance with Lauderer's ideas, who considers that even in this class of cases blood transfusion is not necessary. The fact that recoveries have followed infusion of the six per cent. salt solution, in cases of severe post partum hæmorrhage, Lauderer does not think invalidates his conclusions, since the best results with this solution have been obtained in this class of cases, a fact which he considers quite significant.

In regard to the details of the operation of infusion Cohnheim strongly recommended that the solution should be infused into the proximal end of a distal artery, preferably the radial. His reasons for advancing a method so entirely different from the usual operation[9] are that the artery is more readily found, the blood current in the artery diminishes the danger of a sudden over-powering of the heart; the danger from air embolism is avoided, and the opportunity for gangrene induced by rupture of distal arterioles during spasm to resist a foreign fluid is absent. It is singular that these suggestions endorsed as they were by an investigator of Cohnheim's reputation should have received so little attention, for, as far as we know, there is no published case where this method has been employed. It would seem as if these advantages were not wholly theoretical.

The possibility of relieving dangerous collapse from other causes than excessive hæmorrhage, probably suggested by the above investigations, has led to the development of infusion, and its applications to other emergencies than those for which it was originally intended.

Among these is the work of C. Sanquirico,[10] of Siena, who has attempted to show by experimentation that the elimination of fatal doses of poisons through the renal excretion can be so accelerated by the introduction into the vascular system of an "indifferent" solution equivalent in amount to eight per cent. of the animal's weight, that life can be saved. He succeeded only where chloral hydrate and aconite were the toxic agents employed. Also, the treatment of cholera by subcutaneous infusion, first mentioned by Cantari (1865), and again revived by S. Samuel,[11] of Königsberg, is another outgrowth of this method. It is used in the stage of asphyxia, and is continued as long as the attack lasts; that is, until the pulse regains its force, and renal excretion is re-established. It has been found that the neck and intra-clavicular region is most favorable for the infusion, since the circulation and power of absorption exist in these regions after they have ceased in localities more distant from the heart, especially the extremities, and the technique of the operation is described most fully by Keppler,[12] who has apparently done the most accurate work in this subject. For a full statement of his experience and its results, those interested are referred to his publication.[13] Also, Samuel's article is a very valuable one to those wishing to gain a knowledge of the history and present value of this method.

From the above, it can be readily seen that we have at hand a means of saving life, where formerly the surgeon was compelled to sit with folded hands, and acknowledge himself powerless to aid his patients. Since then, the work of a few men has developed a means of treatment which has already proved effectual in many of these most trying cases. It surely behooves every practitioner to become thoroughly familiar with the treatment most valuable in these emergencies, and be ready to thus save many a victim who would otherwise perish.

CHOLERA AT THE PORT OF NEW YORK.

When the steamship *Alesia*, of the Fabian line, bound to New York from Naples and Marseilles, arrived at quarantine on September 23d, it was found

[3] Loc. cit.
[4] Schmidt's Jahrb. der gesammt. Med. 1886, No. 9.
[5] R. Natr. chlor., 7.0; Sacch. Alb. 30.0; Aq. destill. 1000.00 Gms. adde Natr. Hydr. q. s. ad react. alcal. ca. gtt 2-4, that is, the ordinary salt solution with the addition of 3-5 per cent. cane sugar.
[6] Gaule Corr. Bl. f. Schweizer Aerzte xvi, August, 1886.
[7] v. Ott. v. Bergmann, et alii.
[8] Simple salt solution used; one recovery, five deaths.
[9] Infusion into a large vein, usually cephalica or basilica brachii.

[10] Centbl. f. Med. Wissenschaft, 1886, No. 51.
[11] Deutsche Med. Wchnschr., 1887, XIII. 3.
[12] Deutsche Med. Wchnschr., 1883, No. 46.
[13] Die Erfolge meiner Behandlung des asphyktischen Cholera-anfalles mit Continuirlichen subcutanen Infusionen acoholischer Kochsalzlösung. Fr. Keppler in Venedig. München, 1886.

that eight persons had died of Asiatic cholera on the voyage to that port, and that eight others were suffering from the disease. Ever since the cholera began its ravages in southern Europe, every precaution has been taken to prevent vessels from the infected ports slipping by the quarantine authorities with the disease on board, and no case of it has been discovered until the arrival of the *Alesia*. There were five hundred and sixty-one steerage, and three cabin passengers. The eight cholera patients were at once removed to the hospital on Swinburne Island, and the other passengers to Hoffman Island, where they will be carefully watched and will be retained until all danger of their bringing the pest into the city is over.

The *Alesia* sailed from Marseilles on August 28th, and afterwards touched at Naples where cases have occurred during the latter weeks, doubtless transmitted thither from the neighboring town of Messina. At Naples she took on some three hundred additional passengers, of whom two are said to have been ill at the time. It was not until the ship had passed Gibraltar that they were isolated, and on September 13th, a third passenger was taken down with the disease. Among the victims who died on the voyage were the two original cases and also two of the sailors.

The steamship *India*, which sailed from Mediterranean ports one day ahead of the *Alesia*, also arrived on the 23d. She was carefully examined, but no signs of cholera were found on board, and she was allowed to proceed to the city after being fumigated.

Later reports show that two more of the passengers, held in quarantine on Hoffman Island, died on the evening of the 24th, and one expired at five A.M., on the 25th, at which time it was reported that twenty-three of the passengers are very ill, and one is likely to die. The others are improving.

Those who contemplate a foreign tour this winter may find it of interest to remember that numerous cases of cholera have occurred for the last five or six weeks in the towns about Rome, notably Tivoli, as well as in other parts of Italy and Sicily.

MEDICAL NOTES.

— Dr. Férand, chief of a large Marine Hospital in France, considers tape-worm fifty times as frequent in the Marine Hospital patients of France as it was twenty-five years ago. Of 1,842 cases, he succeeded in obtaining the expulsion of the parasite, head and all, in only 425. He found little efficacy in turpentine, ether, pumpkin-seed, and male fern. Kousso is useful, if perfectly fresh, but it rapidly deteriorates. The rind of pomegranate root is the best cænicide, and pelletierine the best preparation. He gives, the patient being kept in bed, an infusion of senna at 6 A. M.; at 7 A. M., seven grains of tannate of pelletierine, dissolved in simple syrup. This is repeated in one-half an hour. At 8 o'clock, an ounce of castor oil. The patient to keep perfectly still, to avoid nausea.

BOSTON.

— Dr. Martin, the eminent gynæcologist of Berlin, who has been in attendance at the International Medical Congress in Washington, and at the meeting of the American Gynæcological Society in New York, was entertained at breakfast at the Brunswick, last week.

NEW YORK.

— Dr. Henri Nachtel, of Paris, whose efforts, eight years ago, resulted in the establishment in New York of a night medical service, by means of which any one can secure the prompt attendance of a physician at all hours of the night by calling upon the nearest police officer, is now in the city for the purpose of securing $10,000, in addition to $10,000 that he has already raised at home, to enable him to start an ambulance service in Paris similar to that now in use in all the larger cities of the United States. As long ago as 1880, Dr. Nachtel read a paper on the American ambulance system before the French Academy of Medicine, and, a committee of leading physicians having reported in favor of the project, an appeal was made from the Academy to the Minister of the Interior, asking that the system be established in Paris as soon as possible. For several years, however, the public authorities refused to take any active measures to organize an ambulance service, on account of the expense involved, and Dr. Nachtel then resolved to try to gain his end by private means. Accordingly, he started a society, composed of such men as Jules Simon, the former Prime Minister, who became its President, Alexander Dumas, General Boulanger, Louis Pasteur, the Duc de Broglie, Arsène Houssaye, Ernest Renan, Léon Say, and Albert Wolff, and during the last two years he has succeeded in raising $10,000. He desires the money now to be subscribed to pass through the hands of a committee of prominent American citizens to the French committee in Paris, and states that if the additional $10,000 can be secured in six weeks, he will have the American ambulance system at work in the most populous quarter of Paris before the end of the year. He has no doubt that it will demonstrate its superiority to any other method so quickly, that the authorities will very soon provide the 1,000,000 or more francs necessary to extend the system over the entire city.

— The Board of Health has appointed Drs. E. G. Janeway, A. Jacobi, C. R. Agnew, J. D. O'Dwyer, Stephen Smith, George F. Shrady, and D. M. Stimson, a Board of Consulting Physicians and Surgeons for the Willard Parker and other hospitals of the department. Drs. T. M. Prudden and H. M. Biggs have been appointed pathologists to the department. Dr. James B. Taylor, who, for many years, has been at the head of the vaccinating service, has resigned his position as Chief of the Vaccinating and Contagious Diseases Bureau of the Board of Health.

— Early on the morning of September 20th, Dr. Theodore Hornblower and his wife, of Jersey City, had a desperate conflict with burglars who had entered

their residence. Several shots were exchanged, and the Doctor was slightly wounded in the neck. The burglars succeeded in making good their escape, but one of them was apparently severely wounded, by the trail of blood which he left. On the same afternoon, a man applied to a Harlem druggist for assistance, on account of a bullet-wound of the thigh. He was sent to the Harlem Hospital, and the police notified; and he has now been identified by both Dr. and Mrs. Hornblower as the man who entered their room.

— Small-pox has broken out on Staten Island, and of four cases reported at Stapleton and Port Richmond, within forty-eight hours, two have proved fatal. The Board of Health of Edgewater has ordered the district school at Middletown to be closed, as this school-house is situated directly in the rear of the building where the disease originated.

Correspondence.

NINTH INTERNATIONAL MEDICAL CONGRESS, GYNÆCOLOGICAL SECTION.

BOSTON, September 21, 1887.

MR. EDITOR,— Permit me to correct an error in your review of the work done in Section V. of the late International Medical Congress. You give credit to the Section work, but state a part of the interest was due to papers which should have been read in the Obstetrical Section.

This is the first time obstetrics and gynæcology have been separated, and it was natural papers should be referred by authors to either Section which would have been more appropriate to the other. Dr. Miller and myself arranged our programme to our mutual satisfaction, only seeking the best interests of the Sections over which we had supervision.

A glance at the programmes will show that the chief difficulty under which we each labored, was the number of papers contributed — quite sufficient to have profitably engaged the Sections for another week.

Your correspondent, who found nothing to meet his approval, characterizes the papers before the Congress, "as a big wad of documents, which ambitious young men of inexperience combined with respectable practitioners to accumulate."

Of over sixty papers contributed to the Section of Gynæcology, *twenty-five* were by the distinguished gentlemen from abroad, attracted, as he thinks, to the Congress by a meeting of a Society which convened in another city a week later.

Were it worth the while, it would be easy to review in detail the criticisms of your correspondents, but fortunately too many of your readers were in attendance upon the Congress to be misled by such statements.

Permit me the honor of remaining, very respectfully,

HENRY O. MARCY, M.D.,
President of the Section of Gynæcology.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 17, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	670	318	27.15	11.70	16.35	1.65	4.80
Philadelphia	993,801	392	159	16.64	11.96	5.98	5.98	3.02
Brooklyn	745,108	333	158	25.53	13.81	11.41	1.51	9.31
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	159	74	25.20	10.71	8.82	2.52	5.04
Boston	400,000	182	73	25.85	10.45	11.55	4.55	3.30
New Orleans	242,750	101	36	25.74	15.95	9.90	—	4.95
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	105	37	17.10	15.20	8.55	5.70	1.90
Pittsburgh	210,000	81	35	36.90	12.30	8 61	9.84	14.76
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	57	37	15.75	1.75	—	5.25	3.50
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	23	9	30.45	17.40	13.05	4.35	—
Charleston	60,145	38	15	36.96	15.84	13.20	10.56	—
Portland	40,000	8	2	37.50	12.50	37 50	—	—
Worcester	68,383	25	15	32 00	12.00	12.00	8.00	4.00
Lowell	64,051	24	9	41.90	16.76	20.95	8.38	8.38
Cambridge	59,660	18	8	33.33	16.66	27.77	—	—
Fall River	56,863	38	21	34.19	7.89	15.78	15.78	—
Lynn	45,861	11	2	9.09	27.27	9.09	—	—
Lawrence	38,825	9	2	22.22	11.11	22.22	—	—
Springfield	37,577	10	4	40.00	10.00	10.00	20.00	10.00
New Bedford	35,393	16	6	37.50	—	6.25	—	25 00
Somerville	29,992	7	0	14 28	14.28	—	—	14.28
Salem	28,084	17	8	23.52	5.88	5.88	5.88	11.76
Holyoke	27,894	18	12	22.22	—	16.66	—	—
Chelsea	25,709	5	3	20.00	—	20.00	—	—
Taunton	23,674	10	4	30.00	10.00	10.00	—	10.00
Haverhill	21,795	5	1	20.00	40.00	—	—	20.00
Gloucester	21,713	4	1	25.00	25.00	25.00	—	—
Brockton	20,783	6	1	16.66	33.33	—	16.66	—
Newton	19,759	5	1	40.00	20.00	40.00	—	—
Malden	16,407	5	0	20.00	40.00	—	20.00	—
Fitchburg	15,373	7	2	—	28.56	—	—	—
Waltham	14,609	9	0	—	11.11	—	—	—
Newburyport	13,716	3	1	—	33.33	—	—	—
Northampton	12,896	3	2	33.33	—	33.33	—	—

Deaths reported 2,404: under five years of age 1,056; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 595, consumption 281, lung diseases 169, diarrhœal diseases 276, diphtheria and croup 122, typhoid fever 30, malarial fevers 41, whooping-cough 27, scarlet fever 23, cerebro-spinal meningitis seven, small-pox three, measles three, erysipelas one, puerperal fever one. From malarial fevers, New Orleans 11, Baltimore 10, New York seven, Brooklyn five, Charleston four, Nashville three, Philadelphia one. From whooping-cough, New York nine, Boston seven, Baltimore four, Philadelphia three, Milwaukee two, Brooklyn and Pittsburgh one each. From scarlet fever, New York seven, Brooklyn and Boston four each, Philadelphia and Milwaukee two each, Pittsburgh, Cambridge, Fall River and New Bedford one each. From cerebro-spinal meningitis, New York and Worcester two each, Lowell, Holyoke, and Taunton, one each. From small-pox, New York three. From measles, New York, District of Columbia and Charleston one each. From erysipelas, Pittsburgh one. From puerperal fever, Brooklyn one.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,089, for the week ending September 3d, the death-rate was 18.9. Deaths reported 3,348: infants under one year of age 1,117; acute diseases of the respiratory organs (London) 169: diarrhœa 500, scarlet fever 84, whooping-cough 76, measles 49, fever 47, diphtheria 31, small-pox (Sheffield) five.

The death-rates ranged from 13.3 in Huddersfield to 29.1 in Preston; Birkenhead 21.4; Birmingham 18.3; Hull 18.3; Leeds 19.2; Leicester 25.0; Liverpool 20.4; London 16.6; Manchester 25.0; Nottingham 17.9; Sheffield 18.5; Sunderland 22.1.

In Edinburgh 17.6; Glasgow 19.2; Dublin 37.5.

The meteorological record for the week ending September 17, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Sept. 17, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, .. 11	30.40	54.0	58.0	48.0	74.0	68.0	70.0	71.0	N.	E.	S.E.	16	12	6	C.	C.	C.		
Monday, .. 12	30.25	56.0	59.0	50.0	82.0	100.0	97.0	93.0	N.	N.E.	E.	3	14	11	C.	R.	O.	12	.18
Tuesday, .. 13	30.11	61.0	65.0	57.0	97.0	92.0	100.0	96.0	N.E.	N.E.	N.E.	12	12	4	O.	O.	R.	3	.02
Wednes,.. 14	30.04	67.0	76.0	59.0	97.0	78.0	95.0	90.0	O.	S.W.	W.	0	9	10	G.	O.	C.		
Thursday, 15	30.04	65.0	77.0	58.0	68.0	61.0	76.0	68.0	W.	W.	W.	10	12	9	C.	C.	C.		
Friday, ... 16	30.20	55.0	65.0	50.0	79.0	56.0	70.0	68.0	N.	N.W.	N.W.	12	22	7	C.	O.	C.		
Saturday,. 17	30.37	51.0	65.0	45.0	66.0	51.0	75.0	64.0	N.W.	S.E.	W.	8	8	4	C.	C.	C.		
Mean, the Week.	30.201	58.9	66.0	52.0				78.6										15	.20

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 17, 1887, TO SEPTEMBER 23, 1887.

CABELL, JULIAN M., first lieutenant and assistant surgeon. Relieved from duty in connection with the Annual Department Rifle Competition at Bellevue Rifle Range, Neb., ordered from duty as medical officer at the "Rifle Camp for Team of Distinguished Marksmen," Bellevue Rifle Range. S. O. 89, Department of Platte, September 10, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 24, 1887.

HARVEY, H. P., surgeon. Ordered to the United States Steamship "Mohican."

COOKE, G. A., surgeon. Detached from the "Mohican" and ordered home.

CLEBORNE, C. J., medical inspector. Promoted to medical director, September 18, 1887.

WALTON, T. C., surgeon. Promoted to medical inspector, September 18, 1887.

BOYD, J. C., passed assistant surgeon. Promoted to surgeon September 18, 1887.

TRYON, J. R., surgeon. Ordered to Marine Rendezvous, New York, October 1, 1887.

FIELD, J. G., assistant surgeon. Detached from Marine Rendezvous, New York, and ordered to the "Vermont."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING SEPTEMBER 24, 1887.

HUTTON, W. H. H., surgeon. Granted leave of absence for thirty days, September 15, 1887.

PURVIANCE, GEORGE, surgeon. Granted leave of absence for thirty days, September 13, 1887.

ARMSTRONG, S. T., passed assistant surgeon. Granted leave of absence for thirty days, September 13, 1887.

GLENNAN, A. H., passed assistant surgeon. To proceed to Charleston, S. C., for temporary duty, September 15, 1887.

WHITE, J. A., assistant surgeon. Granted leave of absence for twenty-seven days, September 13, 1887.

NORMAN, SEATON, assistant surgeon. Granted leave of absence for twenty days, September 16, 1887.

HEATH, F. C., assistant surgeon. To proceed to Mobile, Ala., for temporary duty, September 15, 1887.

WHITE, J. H., passed assistant surgeon. Promoted and appointed passed assistant surgeon from October 1, 1887. September 19, 1887.

PETTUS, W. J., assistant surgeon. To proceed to Savannah, Ga., for temporary duty, September 20, 1887.

GOODWIN, H. T., assistant surgeon. Appointed an assistant surgeon, September 22, 1887. Assigned to temporary duty at Norfolk, Va., September 23, 1887.

BOOKS AND PAMPHLETS RECEIVED.

A Simple Method of Testing for Color-Blindness. By Henry Sewall, Professor of Physiology in the University of Michigan. (Reprint.)

The Treatment of Melancholia. By A. R. Moulton, M.D., Assistant Physician of the Worcester Lunatic Hospital. 1887. (Reprint.)

Transactions of the Medical Association of the State of Missouri, at its Thirtieth Annual Session, held at Macon City, Mo., May 10, 1887.

Announcement of the Regular Session of 1888 of the Hospital College of Medicine, Medical Department of Central University. Louisville, Ky.

Experiments on the Preventive Inoculation of Rattlesnake Venom. By Henry Sewall, Ph.D., Professor of Physiology in the University of Michigan. (Reprint.)

When and How to use Mydriatics in the Eye. By Edward Jackson, A.M., M.D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic. (Reprint.)

De la Tuberculose Nasale. Par le Dr. A. Cartaz, Ancien interne des Hôpitaux de Lyon et de Paris, Secrétaire de la Rédaction de la Revue des Sciences Médicales. Paris, 1887.

The Earth in Space. A Manual of Astronomical Geography. By Edward P. Jackson, A.M., Instructor in Physical Science in the Boston Latin School. Boston: D. C. Heath & Co. 1887.

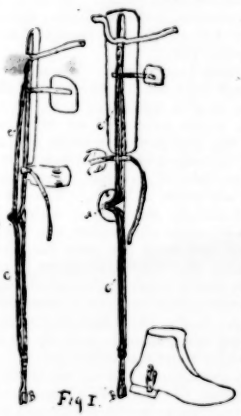
A Report on Orthopedic Surgery to the Colorado State Medical Society, also Remarks on Stricture of the Rectum. By W. R. Whitehead, M.D., of Denver, Colorado. 1887. (Reprints.)

The Specific Gravity of the Urine, and its Relations to Structural Diseases of the Kidneys. By Charles W. Purdy, M.D., Honorary Fellow of the Royal College of Physicians and Surgeons, Kingston. 1887. (Reprint.)

Original Articles.

THE EXPERIMENTAL VALUE OF THE DOWSE SPLINT.[1]

BY E. G. BRACKETT, M.D.

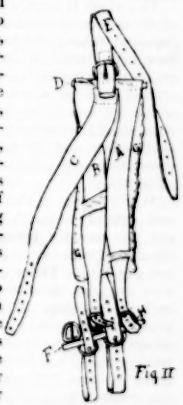

Fig I.

THE value of extension by apparatus in the active stage of hip-disease is well recognized, but mechanical aid in the convalescent period has received far less attention, and its value is less appreciated, especially the splint devised by Taylor, of New York, and called by him the Dowse splint. The object of this splint was to allow the leg the motion of walking, at the same time removing the pressure from the hip-joint. It is described in his "Mechanical Treatment of Diseases of the Hip-joint," in which he says: "A strong, upright bar of steel is jointed at the knee (Fig. I, A) in such a manner, that, when vertical, the rivet of the joint is behind the vertical line. It is evident that, with such a joint, vertical weight would not only be sustained, but would add firmness to the supporting power."[2]

The lower end is connected by means of a socket-joint (B), with a plate which is secured to the sole of the boot. At the upper, are the anterior and posterior arms for the attachment of the perineal bands, and in no way differ from the more commonly used Taylor splint. Greater strength is given by a smaller steel bar (C), parallel to the outer side of the original upright, being made a part of the joint at the knee, and extending some distance above and below, serving as a kind of buttress. The leg is kept in proper relative position to the splint by steel plates, which, in the original one, encircled both the thigh and calf, but these are now replaced, in part, at least, by simpler and less cumbersome means. The splint is so applied that the heel is raised from the ground a distance of from one to two inches, as desired, the toes being allowed to rest on the ground only after considerable flexion of the foot — a position decidedly at a disadvantage for any use. As the foot is brought to the ground, the weight of the body, resting on the perineal band, is sustained by the splint, which prevents the foot from receiving pressure. The leg serves to bring the brace into the different positions at the proper time.

When the perineal band is used to support the entire weight of the body, the parts are subjected to so much pressure, and especially, of course, with heavy subjects, that the ordinary round pad is frequently a source of continual discomfort, from concentration of so much pressure over so small an area. The same is true with less pressure, but unusually tender skin. For use in these cases, I devised a perineal band, the plan of which was to utilize all bony surface possible for support, and since it has now been used with comfort for nearly three years by a number of persons who were unable to bear the round pad, I think it has proved a usefulness.

The parts available for support are the tuberosity and ramus of the ischium, and a portion of the ramus of the pubis. The tuberosity is, of course, both in position and structure, best calculated for this work, but the ramus is also capable of considerable use. The object of the pad was to get a bearing surface as large as these bony structures would allow, and with a means to adapt this pressure as uniformly as possible to this uneven portion of the pelvis, and to change the amount in different portions of the pad. To accomplish this, three straps (A, B, C, Fig. II) pass beneath the perineum, and are firmly secured, posteriorly, to a steel bar (D), and anteriorly, to three buckles, thus allowing their length to be changed. The posterior bar is connected by a strap (E) at its centre to the posterior arm of the brace, thus allowing either end a certain amount of vertical oscillation. The three buckles are fastened to a similar bar (F), which has two straps to connect it with the anterior arm, little or no motion being allowed. Between these straps and the perineum is a piece of leather (G), its size regulating that of the pad, which is fastened to the bar behind. This serves to transmit the pressure of the straps, and also to keep them in position, which is accomplished by button-hole slits, through which the straps pass. The position of the straps is as follows: The outer one (A) passes along the outer border, and is secured to the outer buckle (H). It should pass beneath the tuberosity of the ischium. The second, or middle one posteriorly (B), crosses obliquely inward to the inner buckle, and by this, more nearly corresponds to the direction of the ramus to which it gives its support. The third, or inner (C), crosses the one just described, and is secured to the middle buckle, and gives its special support in the space formed by the divergence of the first and second. By this crossing, the inner edge of the pad is made concave, giving better adaptation to the parts. By this arrangement with buckles, the surface can be made to fit closely all the parts serving for support. Felting one-eighth of an inch in thickness may be used to cover the leather. More than this should not be used, as it interferes with the principle of the pad.


Fig II

In order to determine points of guidance in applying the pad, that it should occupy this relative position to the bony parts, I took measurements of different pelves, with the following result: The rami diverge in a horizontal plane, at an angle which, in the average of

[1] Read before the Surgical Section of the Suffolk District Medical Society, May 3, 1887.
[2] Loc. cit., p. 54.

those measured, was fifty-one and one-half degrees, and this line of direction, carried backward and upward on the dorsal surface of the ilium to the level of the anterior superior spine is, at this point in the female, two-thirds, and in the male, a little more, the distance from the anterior superior spine to the middle of the sacrum. Therefore, a line drawn from this point to the symphysis pubis would pass over the tuberosity and ramus. That the pad should have perfect apposition to this surface, it must pass over this obliquely, and it must be so applied, that posteriorly, its outer border shall be within this line of direction, and anteriorly, the inner border shall be on the outer side. In this position, the straps will come beneath the respective parts, as described.

The time for which Taylor intended the use of the splint was "after all pain and sensitiveness in the joint have ceased, and when there is no longer a disposition of the muscles to take on abnormal contraction, and there is free motion in the joint," for, he says, "the motions of the joint may be kept up with only good, and no harm, so long as pressure is removed, till the joint is completely well." [1]

This stage is certainly a trying one. In the absence of the inflammatory condition, the patient no longer is impelled to keep the joint at rest, and there is yet to be a long period of time occupied in repair, during which the articular surfaces are not capable of withstanding the effect consequent on a return of the use of the leg, and an important problem which now presents itself is: how can the patient be given the greatest freedom, and, at the same time, the joint be protected from any influence which may retard the process of repair.

While motion at this time is, of itself, not injurious, and certainly of much value to the long disused muscles, the recently inflamed structures are in no way capable of withstanding the combined effect of motion and pressure. Therefore, we must, in some way, prevent the joint from receiving the pressure incident in ordinary walking. Crutches and a high shoe remove pressure and protect the joint from injury, provided no accidental one comes to the leg while allowed to freely swing; but there are many cases, especially in older subjects, with whom there is urgent demand for the release from all possible restraint during this period of repair. If motion alone is not harmful, then any means which permits the leg the freedom in the movements of walking, but, at the same time, relieves it of pressure, will allow the joint the condition necessary for its repair, while the convenience to the patient is of the greatest; and if the Dowse splint accomplishes this, its theoretical use is correct.

Of the value of any appliance, we have two kinds of evidence, clinical and experimental. Of clinical, experience has proved this splint to be a valuable means of treatment in this stage of the disease, and in illustration, I will briefly allude to a few cases in which this splint has been used, and for the opportunity of presenting two of these, I would acknowledge my indebtedness to Dr. E. H. Bradford.

As it is not my object to report the cases, but only to use them to exemplify this treatment, I shall not resort to details of the history, but state conditions.

Case I. Girl, six years of age. Three years ago was seen early in the acute stage of hip-disease, and at once given a Taylor hip-splint and crutches, with extension at night. When signs of inflammation had disappeared, the splint was connected with the shoe, in the same manner as is the Dowse, but no motion at the knee was given. By this difference doubtless the pressure on the toe is less than when motion at the knee is given. She has worn this about two years, and her improvement has been steady. There is now no difference in appearance of the two limbs; there is free motion in about 40°, and without the splint there is a scarcely perceptible limp.

Case II. Girl, fifteen years of age. When seven, came under treatment for acute hip-disease, and after rest in bed for two months, was given a Taylor hip-splint and crutches, which were used for two years. At this time there was free motion in about 35°, and there was no pain or tenderness. Pressure gave no pain, but the leg was able to give but little support when the attempt was made to walk. The Dowse was given, and with this she was able to walk. For three months she kept under observation and continued to do well, but was then not seen for fifteen months. At this time she was in excellent health. The two limbs were nearly equal in size and strength, the amount of shortening was the same as when measured for the Dowse. It was found that after wearing the splint for a year, she gradually gave up its use, and has since walked without mechanical aid.

Case III. Male, twenty-six. At the age of fifteen there was disease about the hip, with abscess formation. When twenty-three he considered himself well, and was doing hard physical work under which, periarticular disease appeared, but involved the joint enough to cause the usual symptoms of disease of the head of the bone, as pain, muscular spasm, inability to use the leg. The sinus re-opened and discharged for a while. Under rest, these symptoms subsided, and he was then put on the Dowse, and with the aid of a cane was able to go about with ease. He has now used this for a year, and the improvement in the condition of the limb has been constant and satisfactory.

Case IV. Male, twenty-seven. Nearly six years ago had acute articular disease. After some months in bed, a Taylor splint and crutches were used for two years. After this treatment there were no longer signs of inflammation: there was free motion in about 30°. Pressure gave no pain, but it was only with considerable effort that the leg could be used to support the body. A Dowse splint was given, and has been worn from that time. There has been no interruption in the improvement of the limb, until at present it offers no restriction to the work which ordinarily would come to any one.

Although we have evidence of the clinical value of this apparatus, yet that it accomplishes the work which is claimed, has been doubted by some. In order to have an experimental estimate as well as clinical, of its value, I have endeavored to ascertain the actual work accomplished by it, and I am indebted to Dr. Bowditch, of the Medical School, for the opportunity of attempting these experiments, and also for his advice in the work.

As the Dowse splint is applicable only to those cases in which, as far as possible, the motions of natural locomotion are to be allowed, protecting the joint from pressure while admitting motion, its application must be to the mechanism of walking, and its adaptation such as to protect the joint, in the direction, and at

[1] Loc. cit., p. 53.

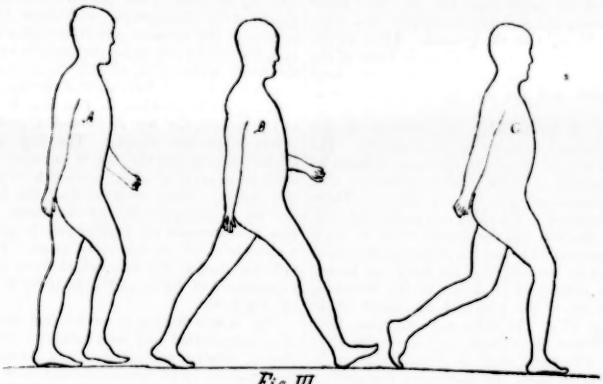


Fig. III.

the time of greatest shock and strain. Therefore the different motions of the step must be separated, in order to determine the time and direction of force from which by the apparatus we protect the joint. The division of the step into the different positions, is now accurately accomplished by instantaneous photography, and in the study of these I have used the series taken by Mr. Eadweard Muybridge, in 1881, and from which the figures in Plate III, are copied, by permission. Only such as have relation to the subject will be considered.

The chief element in the progression is the successively falling forward of the body, swinging on the ankle as a pivot, in each step being raised to allow it to fall again, or as Holmes has expressed it, "a perpetual falling, with a perpetual self-recovery." Therefore the body describes a series of regular curves, which correspond to the vertical oscillation, the amount of which is influenced by the length of the step. The body reaches its highest point in this vertical curve, at a time when it has just passed a point directly over the supporting foot. From this time it falls forward, until arrested by the foot which has been placed in advance and as the body passes on over this, it is raised by muscular effort to the summit of its curve. It is evident that the force exerted by the leg is by no means a uniformly distributed one, and it is the relative amount of strain, and the position in different parts of the step, that we have to study in dealing with this subject. When the body is in the summit of its vertical curve, the supporting, or active leg, is straight, (Fig. III, A), the other, or passive leg, is taking advantage of this moment of greatest altitude of the pelvis, to swing forward, with the knee flexed, to its position in advance. This leg remains flexed until the thigh is at that angle with the trunk, in which it is to receive the weight of the body. The foot continues to swing forward, until the leg becomes straight, and in this position the leg is held until it is brought to the ground by the falling forward of the body. (Fig. III, B). In this way the heel is the first to strike and receive the greater part of the shock, which comes to the foot at this time. The toe is soon brought to bear its share of the pressure in a time equal to a little more than one-sixth of the whole impact. Should the leg remain thus extended, this position would represent the body in the lowest point in its vertical oscillation, and its entrance on the ascending portion of the next curve, would be sudden, changing its direction at an angle. But at this moment the knee is slightly flexed, and by the shortening of this support, allows a continuation of the downward motion; thus its gradual checking, and the lowest point in the vertical oscillation is after the moment the heel strikes the ground. This position at this moment is represented in Fig. III, C. The foot which is about to leave the ground rests on the toe, while the supporting foot is flat on the ground, the leg bent at the knee. Carlet found this lowest point to occur at the middle period of double impact.[4]

As the body passes onward, it is raised to the summit of its curve by the straightening of the leg, which is complete at the moment the body has passed a point above the foot. (Fig. III, A). The other foot has now left the ground, and is swinging forward to take its place in advance. The manner in which it leaves the ground is as follows: As the body passes onward, the heel is raised, at the same time the knee flexed, allowing the toes to rest alone, (Fig. III, B and C), until the distance becomes greater than the length of the leg, when it is raised from the ground, and with the knee flexed swings forward. The body is now ready to again fall forward, and the process is repeated. Thus we can divide a step, for our subject, into three phases:

First, would extend from the highest point in the vertical oscillation, to the moment the heel strikes the ground, or the period of descent; Second, from the time the heel strikes the ground, until the lowest point in the vertical oscillation is reached, or the period occupied in checking the downward motion; and Third, from this last, to the time when the body reaches the highest point in the vertical oscillation, or the period of ascent. It must appear that the pressure is far from uniformly distributed over the two parts of the foot.

As the foot first strikes the ground, the centre of

[4] Annales des Sciences Naturales, xvi, vi, 34.

gravity is behind the ankle-joint, and the heel alone receives the shock, and sustains all weight for a time, when the toe is brought to the ground. Then, as the body passes to a point over, and then in front of the foot, the heel bears less, and the toe more, until the heel is raised, and the toe, for a moment, rests alone.

With a view of determining the estimate of this pressure, I performed a series of experiments. The apparatus used was, in principle, the same as used by Carlet, and consisted of thick rubber cylinders, with air-chambers connected with Marey drums. These rubbers were fastened to the shoe, one under the heel, and one under the toe, and the drums were so regulated that the amount of excursion of the needle which would be caused by the weight of the body was known in each. This difference is shown in the following tracings, which are of the heel and toe, taken in the same step (Fig. IV). As these are examples from the walk of different individuals, they naturally show some points of difference, such as characterize an individual gait, but all show the distinctive features for which they were taken. The amount of pressure is indicated by the elevation of the curve, while the dotted line represents the height which corresponds to the weight of the body. As is seen, the heel receives alone all the pressure which comes suddenly to the foot, and that it is only after a well-marked interval that the toe takes an active part. As the centre of gravity of the body passes in front of the ankle-joint, the pressure is gradually transferred to the toe, and for a moment, at the close of the impact, all pressure is sustained by this part of the foot.



Fig. IV.

There are two parts of each impact, where, theoretically, more pressure comes to the foot, that which represents the weight of the body. In the second phase, when the descent of the body is checked, there must be used the additional force necessary to check a weight equal to that of the body falling a distance of the vertical oscillation, which is, according to Carlet, about fourteen millimeters in an average step.[8] Also in the third phase, when the body is raised to the highest point, there will be this corresponding additional force required. Carlet considered this additional force represented a weight not to exceed one-fifth that of the body.[9]

In combining the two parts of these tracings to represent the total pressure on the foot, I obtained a curve in the first part of the impact, above the line of body's weight, indicating an additional amount at this time. In the latter portion, the tracing remains at, or very near, the level of the dotted line, showing that at this time, when the body is falling forward, the force used is only that necessary to keep the body at a fixed distance from its pivot. Therefore, there is nothing in the pressure-curves of ordinary walking indicating the push of the toe so often mentioned. A glance at the photographs will show that such force applied at this moment would not give a forward motion, but would only raise the body in a nearly vertical direction, while it is, at this time, scarcely at the lowest point in the downward direction.

In regard to position, we find that in the beginning of the impact, the leg is extended, and the heel receives alone the shock. The leg is immediately slightly flexed, and the toe is brought to the ground after an interval of about one-sixth of the time of entire impact. Then, with the foot flat on the ground, the leg is straightened, and the body raised. As it now falls forward, the heel leaves the ground, and, for a short interval, the toe rests alone. It is an important fact that, at this moment, there is no call for extra expenditure of force, and also, there is no motion in the hip-joint.

But, in substituting a mechanical means as a part of so complicated and well-balanced a mechanism as that of walking, necessarily there results a change in the detail of its performance, and such does occur in walking with the aid of the Dowse splint. In ordinary walking, all pressure sustained by the ankle-joint is distributed to the foot, influenced by the relative position of the body and the time of impact. As both parts of the shoe are securely connected with the upright portion of the splint, so it is the object that the pressure on the shoe should be transmitted to the splint, and the foot prevented from taking part in this by its elevation. The splint should not only receive the weight of the body in the beginning of impact, but retain it until the foot is about to leave the ground. To accomplish this, the splint must be held straight during this time, and as this occurs at that time when, in natural walking, the knee is flexed and then extended, a change from ordinary walking must take place. To prove the occurrence of this change from the normal walking, I photographed, while in motion, an adult wearing a Dowse. The positions in this part of the step may be seen in the accompanying photographs. As the foot swings forward, the splint becomes straight, as does the leg in natural walking, and in this position, receives the weight of the body (Fig. V, A), but at this moment does not bend, as does the knee, as has been described, but remains straight, supporting securely the weight of the body. Therefore, the body, instead of reaching the highest point in its next vertical oscillation by a direct lift, must swing upward through an arc of the circle, which has the splint for its radius. The positions during this movement are seen in Fig. V, B and C.

A jar to the body from this sudden change in direction is prevented by the elasticity of the brace. Passing this point, the body now falls forward, held by the splint, until, just before the termination of the impact, when the heel is raised, and the splint can no longer receive all pressure, as before.

Thus the foot is protected from pressure, except in the last moment, when it is in the act of leaving the ground, and this at a time when the least is required.

Since the toe is allowed a position in which it may momentarily bear pressure, necessarily the opportunity is taken, and a certain amount is sustained by this part of the foot. To determine this, I took a series of tracings in the same manner as with natural walking (Fig. VI). In these, the lower curve represents the

[8] Animal Mechanism, Marey, p. 118.
[9] Loc. cit., p. 25.

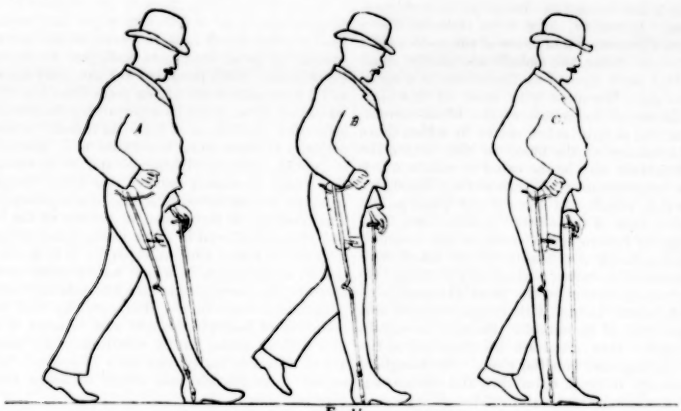


Fig V

pressure sustained by the splint, the upper, that by the toe. It is seen that the brace receives the weight alone for the greater part of the step, and in that part of most strain, while that of the toe is but of short duration, is gradually imposed, and, in amount, is never great.



Fig VI

Therefore, of its work I think we can say that, in the first portions of the impact, it protects the leg from pressure, and this at a time when greatest strain is usually sustained by the leg. That slight pressure is allowed the toe for a moment at the close of the impact, but this comes at a time when motion is not occurring in the hip-joint. Knowing the actual protective value, in addition to the clinical evidence of its usefulness, we need no further explanation for its application, except the conditions under which we wish the joint to be while in its treatment. It must appear that, in the proper cases, it is a valuable means of treatment. Certainly, there is a time in the convalescence when the joint can bear this amount of pressure, as has been described; yet the weight during the whole step, and especially in the first of the impact, when there is considerable shock to the joint, could in no way be allowed with impunity. This being removed, but little actual work is left for the leg to do. However, more intelligent care on the part of the patient than with ordinary apparatus is necessary, for the opportunity is present to make more use of the limb than is intended. Unless the splint is straight, as has been described, it does not bear the entire weight.

There is no reason why its use should be restricted to hip-disease, but it may be employed in any case where the leg is to be relieved of its work, or a portion of its work; and Taylor recommended it for permanent use after exsection of the head of the femur, and in ununited fracture of the neck of the femur, there is certainly opportunity for experiment.

NOTES ON HÆMORRHAGIC INFARCTION.[1]

BY WILLIAM OSLER, M.D., OF PHILADELPHIA.

Regarded as an incident in the course of various affections, hæmorrhagic infarction has no special status as a morbid entity, and can scarcely be considered apart from those conditions which render its occurrence possible; namely, a certain anatomical arrangement of the arteries, with obstruction of a terminal branch by an embolus or a thrombus. Into anatomical details I do not propose to enter, but shall confine my remarks, first, to the conditions in which we meet with infarction; and, second, to special features of the process in certain organs.

In looking over the notes of a number of cases in which infarctions occurred, I find they may be grouped into three sets: First, cases with fresh endocarditis, and lesions unquestionably embolic; second, cases in which there was thrombosis in regions other than the affected vessel; third, cases in which, so far as could be ascertained, the infarction resulted from the formation of a primary thrombus in the affected vessel, or was part of a condition of multiple thrombosis.

Upon the first group of cases I shall not dwell, further than to note that conditions of the endocardium, apparently the most favorable, may exist without the occurrence of infarcts. In several instances of severe ulcerative endocarditis, there was a notable absence of multiple emboli, while in others the distribution has been peculiar; for instance, to the brain alone, none to the abdominal viscera, or to the intestine chiefly. I have, also, the records of twenty cases with numerous endocardial vegetations, in which there were no infarcts.

In the second group, the infarctions resulted from the dislocation and transferrence of fragments of

[1] Read before the Association of American Physicians, June, 1887.

thrombi which had formed in various parts of the vascular system. In reality, there is no essential difference between these cases and those of the endocarditis group, as, in the latter, the emboli are chiefly small thrombi, which have formed on the valves as a result of inflammation. We meet with cases of this class under conditions of feebleness of the blood-current, and in septic and certain other states in which there is a special tendency of the blood to clot within the vessels. Whatever may be the cause or causes which prevent the coagulation of the circulating blood, we must admit that rapidity of the current plays an important part. Loss of the normal endothelium, upon which Cohnheim lays so much stress, as the essential factor in maintaining the fidelity of the blood, may exist to a remarkable extent without any clotting. Instances are not uncommon of the most extreme calcification of the aortic intima with rough, exposed surfaces, and no trace of thrombosis. So, also, in certain aneurismal sacs. How often are we surprised at the absence of the expected lamellar clots. Recklinghausen has specially insisted upon this, and claims that slowness of the blood-stream, and sudden dilatation in its course, are much more important elements in the production of marasbus thrombi than loss of integrity of the vessel wall. The recent observations upon the formation of thrombi touch this question in an interesting manner, and bear directly upon it. Evidence has been gradually accumulating to show that the blood-plaques play a leading *rôle* in the early stages of thrombus-formation. My observations on this subject would lead me to conclude (1) that certain of the marasmatic thrombi so common in the iliac, femoral, and pelvic veins are composed, in great part, of blood-plaques; (2) the globular thrombi of the heart-cavities are largely made up of the same elements; (3) that they play an important part in the formation of the laminated coagula of aneurismal sacs; (4) the soft thrombi which form on atheromatous patches of the aorta are, to a great extent, aggregations of blood-plaques. To these facts, we may add the experimental demonstration which I, as well as others, have offered, that in a lacerated vessel, these bodies are the very first elements to adhere to the torn tissue, and form the basis of the thrombus.

One among many of the interesting points determined by Eberth and Schimmelbusch, in their investigations on the subject, is the relation of the plaques to the blood-stream. When rapid, they keep a central position with the red corpuscles; but when, from any cause, the current slackens, they accumulate in the peripheral still layer, and tend to adhere to the intima. When the velocity of the flow is maintained, there may be a lesion of considerable extent without any attempt at clotting; but if the stream slackens, the first effect is the agglutination of the blood-plaques on the torn surface, and the formation of a white thrombus.

Now, the connection of this with the subject in hand lies in the fact that we most commonly meet with thrombi in conditions of general or local feebleness of the circulation. The infarcts occurring in this group of cases are, as a rule, easily traced to their source: those of the lungs to the globular thrombi of the right chambers, or clots in the systemic veins; those of the brain, abdominal viscera, and extremities to the thrombi in the left chambers, in aneurisms, or on atheromatous surfaces.

In the third group, we find the infarction and the plugged vessel, or we find multiple infarcts, and the most careful search fails to reveal either the primary source, or local conditions sufficient to account for thrombosis. Such instances are not very uncommon, and I have picked out fifteen cases from my records in which, so far as could be ascertained, the hæmorrhagic infarction was due to a local thrombotic process. A majority of these were associated with specific fevers — typhus, typhoid, diphtheria, and septicæmia. One was a case of cholera morbus, one acute Bright's disease, and one occurred in a case of morphia-poisoning. The tendency to thrombosis in certain of the fevers is well recognized, and in these cases, some other factor than debility may come into play. It is worth noting that in septic states, in which we so often meet with thrombi, the blood-plaques are exceptionally abundant.

Here and there in the literature, we find recorded instances of multiple thrombi and infarcts in association with an acute febrile condition. As these cases are of extreme rarity, and very obscure, I will here report a remarkable case which occurred under my care last year:

John Mullen, aged twenty, laborer, admitted to Philadelphia Hospital, October 10, 1886. He was a well-built, healthy-looking man. Never had had syphilis. Had been a hard drinker at times. Two years ago, in Pittsburgh, had typhoid fever: ill for six weeks. Present illness began, about a week before admission, with diarrhœa, and he felt constantly weak, exhausted, and had no appetite. For two days he had nose-bleeding. When first seen, on 11th, pulse 112, temperature 102⅘°, respiration 20; was rational. Expression of face dull. Complained of pain in abdomen, which was slightly swollen, and, on palpation, painful in left hypochondriac region. Beneath skin of anterior thoracic region and of abdomen, were many localized blue spots (tâches bleuâtres). Heart-sounds muffled; no murmur. Examination of lungs negative. Urine clear, no casts, trace of albumen. Tongue coated, white. Splenic dulness increased; edge not palpable.

On the 12th and 13th, the temperature did not rise above 103⅘°; the abdominal pain increased; was most marked in splenic and inguinal regions. Delirium almost constant, though, at times, he could be roused to give an intelligent answer. Had had one or two loose stools; no diarrhœa. No characteristic eruption. The *blue spots* persisted. Tongue became dry. On the evening of 13th, the feet were noticed to be very cold, and he complained of it; and, on the 14th, the feet and legs, as high as the knees, were cold, slightly swollen, and of a mottled-red color; pulse 120, temperature 102°; great restlessness; persistent delirium; abdominal tenderness continued, particularly over spleen, the dulness of which extended to little below costal border. Heart feeble; no murmur. On the 15th and 16th, the legs became of a deep, livid-red color, as high as middle of thighs; no pulsation in femoral or popliteal vessels. Low delirium; tongue dry; pulse 120–140, temperature 101–103°. Blood examined, with negative result. Urine scanty, albuminous. He sank, and died on the morning of the 17th, a week after his admission, and about two weeks from the beginning of his illness.

The case was regarded as one of typhoid fever, the epistaxis, diarrhœa, and abdominal swelling and tenderness supporting the opinion, though a doubt always

existed, on account of the very positive statement of an attack two years before. The thrombosis in the iliacs and gangrene of the legs were looked upon as illustrations of a rare, but well-recognized, sequence of typhoid fever. The autopsy showed thrombosis of the lower two inches of the abdominal aorta, with plugging of iliacs and femorals, the clots firm, reddish-brown, and closely adherent. Mesenteric vessels free; two large branches of the splenic artery plugged. The spleen, three times the normal size, presented three or four infarcts; the upper one, as large as a small orange, was soft, covered externally with thick layers of lymph, and closely united to the stomach and colon. From this point, extended a general peritonitis. The right kidney presented two large, red-brown infarcts. The ileum was normal; no hæmorrhoids; bladder, prostate, and testicles normal. No endocarditis; lungs normal. Brain healthy; no otitis; no bone-lesions. During life, the blood was carefully examined for micro-organisms, but none were found. After death, in the infarct of the spleen, and in the lymph covering it, there were numerous micrococci.

Passing from a consideration of the conditions under which infarctions occur to special features of the process in certain organs, I will submit, first, an interesting, possibly a unique, instance of hæmorrhagic infarction of the liver. Under ordinary circumstances, this is impossible, for although the terminal branches of the portal vein have not extensive anastomoses with each other, occlusion is of no moment so long as the circulation is maintained in the hepatic artery. Indeed, as in a case which I reported,[1] there may be for years complete obliteration of the portal vein without interference to any apparent extent with the functions of the organ. The case is as follows:

A. B., aged sixty-two; an old soldier and a hard drinker. Illness began in June, when he had dropsical symptoms. In July he took a voyage from Newfoundland to Labrador, and came to Montreal, September 27th. He had been ill nearly all the way from the Gulf, and the dropsy had increased very much. When admitted to the General Hospital he had ascites, vomiting, and hæmatemesis. Death took place on the second day after admission.

Autopsy: Much fluid in peritoneum and in left pleura. Heart and lungs normal. Stomach contained a bloody fluid; mucous membrane stained, not eroded. Small intestine contained a quantity of altered blood. Liver was large; weighed 2,400 grammes; capsule a little opaque, and at right border was a little thickened. Organ extremely cirrhotic, the lobules mapped out in small irregular areas, not projecting much, but giving the characteristic granular appearance. A considerable portion of the right lobe presented a remarkable appearance, neither like a normal nor a cirrhotic organ. There were areas of red-brown and light-brown tissue, in places mottled, very dry, friable, and readily torn. Strands of connective tissue passed through these parts, but the cirrhotic character of these parts was lost. It resembled a firm infarct of the spleen. Microscopical examination showed these reddish areas to contain innumerable blood corpuscles, infiltrating the entire tissue. The liver-cells were small and fatty, in places indistinguishable. The portal vein presented a soft brown thrombus, occupying the upper part of the trunk, but not completely obliterating it; the branches passing to the right lobe had closely adhering light-brown thrombi; that passing to the antero-lateral region, where the infarct was situated, was filled with a firm, solid, partially laminated clot, evidently formed some time before death.

The condition of infarction is stated not to occur in the liver, owing to the fact of a double blood-supply, and if a branch of the vena portæ is plugged the capillaries of its territory receive blood through the hepatic artery, and *vice versâ*. In this case we may suppose that the interlobular connective tissue growth had obliterated a majority of the hepatic artery branches in the affected region, and had thus converted certain trunks of the vena portæ into terminal vessels, which, when plugged with a solid thrombi, induced a condition of infarction in the area supplied by them. With the exception of a case to which Recklinghausen refers, I do not know of any instance in the literature of infarction of the liver.

Hæmorrhagic infarction of the intestine is an interesting lesion which we meet with in two forms; the one, a local process in the mucosa, the other, a general condition involving a portion of the entire gut.

Small infarcts of the mucous membrane are by no means infrequent in ulcerative endocarditis; they vary in size from a pea to a half-dollar, and present a central necrotic area, a zone of intense hæmorrhagic infiltration and congestion, and a central plug in the nutrient artery. In one instance I was able to find the embolus and determine its identity with the mycotic vegetations on the aortic valves. The central necrotic area may slough and leave a distinct ulcer.

Infarction of an entire section of the bowel is not a very common event in man; indeed, considering the large size of the superior mesenteric artery, we may wonder that it does not occur more often. In the horse, on the other hand, it is an extremely frequent lesion resulting from the transferrence of portions of clot from the verminous aneurisms which are so common in the mesenteric arteries. The fatal colic of these animals is the result, in a great majority of the cases, of hæmorrhagic infarction of the intestine. I have been long familiar with the condition, and have sought carefully for instances in man. The following cases illustrate the similarity of the lesions to those produced experimentally, as related by Dr. Welch:

Case I. A woman, aged fifty-five, had suffered for a year or more with dyspeptic symptoms, and had vomited a small amount of blood, had lost flesh, but was not cachectic. No tumor of abdomen could be made out, but cancer of the stomach was suspected. The details of the last week of her illness are as follows: On April 14th, 15th, and 16th, she had nausea and vomiting: on the 17th she went to bed. There was vomiting and considerable epigastric pain; pulse about 90. On the 18th she was easier. 19th, much worse; she had fainted in the night; pulse weak, 115; face pale, feet cold, vomiting frequent. In the evening the temperature was 101°, pulse 120; the pain in abdomen was more diffuse, and there was considerable distension. On the 20th, condition did not improve, though, under opium, the distress was not so great. On the 21st, prostration more marked, and the next day the vomiting was distinctly fæcal and frequent. Death on the 23d.

At the autopsy, the small intestine, from an inch or two below the duodenum to within two inches of the valve, was dark in color, distended, and covered in

[1] Journal of Anatomy and Physiology, London, 1882.

places with a thin sheeting of lymph. Several spots in the ileum looked almost gangrenous, and here and there extravasations had taken place. The coats were infiltrated, the mucosa soft, and there were three spots (ulcers) from which the membrane had disappeared. There was no heart disease. In abdominal aorta a few flakes of atheroma. At the orifice of the superior mesenteric artery was a large button of atheroma which had ulcerated on the surface and to which was attached a firm thrombus, completely blocking the vessel for one-and-a-half inches from the aorta.

CASE II. A woman, aged about seventy-five, was admitted to hospital under Dr. Ross, with necrosis of the femur. She was seized four days afterward with severe abdominal pain and frequent vomiting; there was diarrhœa at first, and then symptoms which pointed rather to obstruction, persistent vomiting, and great distension of the belly.

At the autopsy the small intestine was found greatly distended and of a deep livid-red color; no inflammation of the peritoneum, but about one-and-one-half pints of bloody serum in the sac. The coats of the bowel were swollen and deeply infiltrated with blood and serum. For about a foot from the pylorus the appearance of the gut was normal, and the last six or seven inches of the ileum were also healthy. The mucosa was deeply congested, soft, and readily scraped off. The mesentery was congested and infiltrated. In the heart, the mitral valve presented numerous recent warty vegetations, soft, pedunculated, and easily torn. The aorta was moderately atheromatous. Dissection of the cœliac axis showed the splenic artery blocked by firm brownish thrombus, which extended from about an inch from the hilus into the branches of the second and third degree. The organ was small and had a turbid, reddish-brown appearance. The hepatic artery was occluded by a firm thrombus, which began near the bifurcation and extended into both branches. The superior mesenteric artery contained a firm brownish-yellow clot, which began about a quarter-of an inch from the aorta and extended an inch-and-a-half into the two main branches. Before this chief division six smaller vessels were given off, all of which were plugged. In tracing down the large branches, two of them contained firm thrombi about an inch from the bowel.

CASE III. J. C., aged forty, an engineer, large muscular man, patient of Dr. Gardner. Good health up to a year before death, when he began to suffer with pains in the back. While wheeling a barrow full of cinders, he was suddenly seized with intense pain in abdomen and groins, became faint, fell to the ground and vomited. He lived for a week after. The chief symptoms were persistent vomiting, which resisted all the usual remedies; severe diarrhœa; great pain in abdomen, which was distended. The voice was husky, eyes sunken, features pinched, and the whole appearance choleraic. The stools were thin, and at times blood-tinged. The temperature did not exceed 101°; pulse was small and infrequent, rarely over 90.

The autopsy revealed an abdominal aneurism, involving the aorta just at the diaphragm. The axis, superior mesenteric and renals were given off from the sac. There was a dissecting aneurism of the lower part of the abdominal aorta and the iliac. The blood had passed from the sac beneath the intima at the hinder part of the aorta, and on the right side, and had passed into the iliac, elevating the intima, and narrowing their calibre. On the right side of the external iliac it had burst externally by a tiny orifice, and a thin sheeting of blood extended beneath the pelvic peritoneum and in the lumbar region. The small intestine was swollen, and of a deep purple-red color; the walls infiltrated with blood and serum. The superior mesenteric artery arose from the most prominent part of the sac, and the orifice was dilated. About half-an-inch within the vessels was a firm plug of the fibrinous lining of the sac which had been dislodged and carried into the artery. There was a pretty firm coagulum about it, and, on the distal side a dark clot. The mesentery was thickened and infiltrated, and its veins full.

Regarding hæmorrhagic infarction of the lungs, I would refer briefly to the following points:

(1) The frequency with which we find vessels plugged without resulting infarction, even when the obstruction is total.

(2) The important part played by globular thrombi of the right auricular appendix in the production of infarcts, particularly in the last stages of valvular disease.

(3) The occasional occurrence of thrombotic infarction as a result of local disease of the pulmonary artery. We find this, as in the specimens I show, in atheroma of its branches in mitral stenosis, and in the endarteritis induced by the encroachment of tubercles in chronic phthisis.

(4) The occurrence of cases of pulmonary infarction in which a careful and thorough examination, such as is ordinarily possible to make in hospital work, fails to give any clew to the origin of the obstructing thrombi.

A CASE OF TUMOR OF THE BREAST.[1]

BY S. J. MIXTER, M.D.,
Assistant Demonstrator of Anatomy, Harvard Medical School. Surgeon to Out-Patients Mass. Gen. Hospital. Instructor in Surgery, Boston Polyclinic.

THE following case is reported, as it presents certain interesting features, and in order that attention may be drawn to methods of treatment and operation, not sufficiently insisted upon by many surgeons.

The patient, a young married woman, twenty-six years of age, was seen in consultation with Dr. Cook, of Natick, March 16th, and the following history obtained. She first noticed a lump in the breast six months ago. This was treated by an irregular practitioner by massage, without any material change in its size, for three-and-a-half or four months, when it began to grow rapidly. Since then, it has steadily increased in size until at the time of examination, it apparently involved the whole gland, the breast being enlarged, hard, and prominent, fairly movable, the nipple retracted, and the skin near the nipple fixed to the tumor. The axilla was filled with a hard movable mass.

After a consultation with Dr. D. W. Cheever, it was thought advisable to operate and endeavor to remove the mass as completely as possible. The rapid growth and extension of the disease to the axillary glands rendered the ultimate prognosis unfavorable, but it was hoped that a thorough operation might, at least, prolong life, and would give the patient the benefit of her only chance for recovery.

[1] Read before the Surgical Section of the Suffolk District Medical Society, May 3, 1887.

I operated at the patient's home on March 23d. The breast was removed, together with a large amount of skin and nearly the whole of the pectoralis major muscle, to which it was attached, and which, on its upper surface, was studded with an occasional small nodule. The axilla was thoroughly cleaned out, according to a method I first heard insisted upon by Dr. M. H. Richardson; namely, to first expose the axillary vessels and then to remove the contents of the axilla. The artery and vein were exposed from the lower edge of the latissimus dorsi to the lower border of the first rib, every branch of both artery and vein tied and cut, except the main trunk of the sub-scapular. No tissue of any kind remained in the axilla when the dissection was completed.

It was with great difficulty that the skin could be brought together, even by means of deep stitches placed three and four inches back from the edges of the flaps — dressed with iodoform gauze.

The wound healed throughout, except at the axilla, where there was a small "dead space;" that is, a space where the deep surfaces of the wound were not in apposition. Here a small clot formed and gave rise to a small abscess, which was relieved later by re-introducing a drainage-tube. Patient sat up in a week, and is practically recovered from the operation at the end of two weeks.

Dr. W. F. Whitney, who kindly examined the tumor, reports it to be a very cellular mammary cancer.

The interesting points in connection with this case are, the presence of a growth of this nature in so young a patient; and the question of the influence of massage on the growth and extension of the disease.

One can but think that the treatment of a malignant tumor by massage, could only result in its more rapid growth, and stimulate not only the cell-production but perhaps favor its progress along the lymphatic vessels to neighboring glands and tissues.

In speaking of this operation in general, I wish to lay special stress on the necessity of removing a large amount of surrounding tissue with the gland, making a thorough and systematic dissection of the axilla, in every case, whether the glands are enlarged or not, and leaving no tissue between the two through which run the lymphatic vessels. To do this, the fascia covering the pectoralis major and the part of the minor exposed, should be dissected off with the tumor. All the contents of the axilla should be removed except the axillary vessels, brachial plexus, and sub-scapular nerves. These last, which are given off from the posterior cord of the plexus, should always be saved, if possible, as Küster has shown in a late article, that the varying amount of disability in the use of the arm, seen after these nerves have been sacrificed, is avoided when they are left. They supply the sub-scapularis, teres major, and latissimus dorsi muscles, and can always be readily found during the dissection. If they are divided or removed, paralysis of these muscles follows, and, as a consequence of the paralysis, a growth of connective tissue takes place in the substance of the muscle, making it much less elastic than it normally is. The sub-scapular vessels may generally be saved.

The following are one or two practical points in regard to the incision, and the method of sewing up the wound. The mammary incision should be continued along the border of the pectoralis major; in other words above the upper boundary of the axilla, and the skin should then be dissected downward and backward. By doing this, the line of suture comes well forward in the axilla.

A quilted suture passed through the axillary skin at a point corresponding to the apex of the axilla, then through the serration of the serratus magnus on the second rib, and out again through the skin, about a quarter-of-an-inch from the point of entrance, the two ends being tied after all the other sutures are applied and just before dressing the wound, almost completely closes the "dead space" spoken of, and, by carrying the skin so high in the axilla, prevents union of the arm to the side. This I have done in a case operated upon since the one reported, with very satisfactory results. In previous cases I have generally had slight suppuration in this space. A second quilted suture can be passed through the axillary skin and pectoral muscles, and tied on the front of the chest, if the tension seems too great on the first stitch.

Drainage, to be successful, must be made by a tube through a buttonhole cut near the anterior border of the scapula.

I am aware that there is little or nothing new in these suggestions, but it has seemed to me that many surgeons do not appreciate their importance. The old practice of removing the breast alone, in malignant disease of that organ, leaving the axilla if no glands could be felt, and in case of enlargement removing the glands only, seems to me to be entirely opposed to the ideas of modern surgery. By this method almost no radical cures resulted, and many skilful and judicious surgeons came to look on the operation as almost useless, subjecting the patient to unnecessary suffering and anxiety, without a prospect of corresponding benefit.

Even with the greatest amount of care and thoroughness, many failures must follow operations for malignant disease, but the modern radical operation, when properly performed, shows results seldom or never arrived at by the old methods. Statistics of the results of operations in cancer of the breast, should to-day include only those cases where the operation has been thoroughly done. Patients to-day, have a right to expect such an operation, as giving them their best chance of life, and no surgeon should content himself with simply removing the mamma and then pointing with pride to a union by first intention, when already the disease has probably crept over the edge of the pectoralis muscle, and though not perceptible to touch, may be working its way along the lymphatics, out of reach of the knife. That is not surgery, it is simply an unscientific and incomplete operation.

REPORT ON PROGRESS IN THERAPEUTICS.

BY FRANCIS H. WILLIAMS, M.D.

[The reporter is much indebted to WILLIAM H. POMEROY, M.D., of Springfield, for his assistance in preparing the report for this year.]

ANTIPYRETICS.

ANTIPYRETICS have recently been the subject of much practical and scientific study and observation; and as seemed probable with the first results of synthetic chemistry in this direction, each product has been better than its predecessors.

KAIRIN, THALLIN, HYDROCHINON.

It will be remembered that kairin, thallin, and hydrochinon, while effective in reducing temperature, had a peculiar action on the blood and circulation which rendered their use in excessive doses, somewhat unsafe. The experiments of Dr. Beyer [1] showed that kairin and thallin, and perhaps hydrochinon, had a destructive influence on the red corpuscles of the blood, accounting for the change of color caused by large doses. Kairin and hydrochinon have further a decidedly weakening effect on the heart: that is, are muscle poisons in large doses producing diastolic arrest. Thallin has the same action, but to a much less degree. These experiments explain the objections found to the clinical use of these drugs; and the many cases of collapse, cyanosis, and temporary heart failure observed, as also the manner of their action, sudden reduction, rapid succeeding rise of temperature with often rigors; these considerations placed their successor, antipyrin, far in advance in professional favor.

ANTIPYRIN.

The advantages of this agent as an apyretic are well evinced in the series of experiments to which already reference has been made. Unlike the preceding drugs it does not alter the constitution of the blood, and is not a muscle poison, while, however, it does depress the heart's action, probably its greatest defect. Its antipyretic action seems chiefly by increased local dissipation, by dilatation of surface capillaries. Clinically it was found safe and effective, in comparison with its predecessors, but later it was found to produce a depressing effect, decidedly objectionable in some cases and certain forms of disease, notably pneumonia and diphtheria. In general, a condition of weakness, with tendency to cyanosis, contraindicates its use. In the high temperature of beginning typhoid, and especially in acute articular rheumatism, it is found to give its best results. In typhoid, fifteen-grain doses are given to anticipate the evening rise: that is, fifteen grains at 11 A.M., repeated at 5 P.M., if the temperature continues to rise. This secures for the patient generally a comfortable night's rest, and is generally accompanied by free perspiration, and is advised when the temperature reaches or exceeds 103° F. No influence on the course of the disease is claimed, and its use in cases attended by great prostation and weak heart is open to objection.

Concerning its value in acute articular rheumatism, the inaugural essay of Dr. Eich [2] gives it high rank in this disease. Observations on thirty-six cases including acute and chronic articular rheumatism lead him to regard its anti-rheumatic action equal to that of salicylates.

Enjoining caution in the use of antipyrin, Dr. Geo. Dalton Heys [3] reports three very severe cases of collapse attributable to its use, due to too frequent repetition of doses in the endeavor to secure fall of temperature when the initial dose failed. His conclusions are: the drug, like many others, after repeated administration, may in the usual doses act less rapidly, and attendants should be cautioned not to push the remedy if it seems ineffective, but if the rise of temperature be considered dangerous, to send for the physician.

[1] Am. Jour. Med. Sciences, April, 1886, 369-403.
[2] Basel, 1886. Therap. Gaz., 1886, ii, 778.
[3] New York Med. Jour., January 22, 1887.

Karsh, of St. Petersburg, reports very unfavorably on antipyrin.[4] His cases were ten in number, three typhoids, three pneumonias, two of phthisis, one pleurisy, one acute articular rheumatism. He used fifteen-grain doses, three times a day, or oftener, even at hour intervals. Of the typhoids two died of complications (no inference), in the third the course of the disease seemed prolonged. In pneumonia and phthisis no good results are seen.

Dr. Enko [5] reports retardation of resolution in cases of pneumonia treated with antipyrin.

Dr. Posadski,[6] reports twenty-five cases of pneumonia treated with antipyrin and compared with twenty-three cases treated with calomel. He gave antipyrin in daily amounts of from fifteen grains to two drachms, calomel in the other series in one-eighth grain doses, four times daily. Conditions, ages, period of the disease, were as nearly the same as possible. The average duration of the disease in those treated by antipyrin was 8.1 days, in those treated by calomel 7.1 days, with antipyrin the termination was by lysis, with calomel, by crisis; with antipyrin there were five cases of collapse, four of vomiting, two of skin eruptions, eleven with dark cherry-colored urine, conditions none of which occurred in those treated by calomel.

The *Medical Record*, September 25, 1886, reports a case of sunstroke in which enormous doses of antipyrin failed to reduce temperature.

Antipyrin cannot, therefore, be regarded by any means a perfect antipyretic, and while undoubtedly a valuable drug in certain pyrexial conditions, yet has in it an element of risk in its depressing action on the heart, which greatly restricts its use and renders it ineligible in certain forms of disease with high temperature.

ANTIFEBRIN.[7]

Antifebrin is a substance new in its therapeutics, but old in its chemistry. It is phenylacetamide, or "acetanilide," long known to chemists and workers in dyes. It is made by the action of heat on acetate of aniline, and is contained in rosaniline made from acetic acid and iron. It was manufactured by Gerhardt in 1853, but its apyretic properties are the recent discovery of Drs. Cahn and Hepp, German observers, working in Kussmaul's clinic, whose announcement appeared in the *Centralblatt für Klinische Medicine*, August 14, 1886. The substance is not, like antipyrin, "protected" by patent right, and were it only equal to antipyrin as a therapeutic agent, should on that account be preferred, as well as from the resulting fact of much less cost.

Acetanilide, rechristened by Cahn and Hepp "Antifebrin," is a white, crystalline, odorless powder, slightly purgent, almost insoluble in cold water, sparingly soluble in hot water, readily soluble in alcohol. It melts at 113° C, and distils unchanged at 292° C. It has neither acid nor basic properties. The taste is not unpleasant, and it can be conveniently given in whiskey or warm sweetened water, or suspended in water. Its antipyretic action is marked and constant, and effective in much smaller doses than antipyrin, while enormously large doses do not produce toxic

[4] Meditz, Pribavl, k. Meskomil, Sbornikii, January, 1886, p. 24 Lond. Med. Rec., April, 1886, 144.
[5] Vratch, 1885, No. 18, p. 293.
[6] Quoted in Therap. Gaz., 1886, ii, 558.
[7] Centralblatt f. klin. Med., August 14, 1886.
Brit. Med. Jour., December 4, 1886.
Berlin klin. Wochschr., 1887, Nos. 1 and 2.
Therap. Gaz., 1886, 697; 1887, 113, 163, 184, 190, 447.

effects. Its apyretic action as compared with that of antipyrin is, weight for weight, as four to one, that is, four grains of antifebrin equals in effect 16 grains of antipyrin.

The authors themselves frequently took fifteen to thirty grains a day without the least effect, while Fürbringer and Reise raised the dose to ninety grains daily without harm. It causes no cerebral disturbance, rarely any rigors with the subsequent rise, no vomiting, and the appetite improves under its use. In a few cases, cyanosis of the face and limbs has been observed, but this soon disappeared and seemed to have no unfavorable significance.

To consider briefly the clinical evidence from the points brought forward, we have a series of twenty-four cases, reported by Cahn and Hepp,[8] a later series of sixty cases by the same,[9] followed by reports from various trustworthy sources both foreign and American, including thirty cases reported by Eisenhart, Ziemmsein's clinic; twenty-nine cases by Prof. Osler, of Philadelphia, as well as results personally observed in the Boston City Hospital. A generalization of these reports and results is all that can be attempted in this article. In regard to the diseases treated: the cases reported by Cahn and Hepp were chiefly typhoid (37 cases), erysipelas, phthisis, acute articular rheumatism, and pneumonia standing next in number, with a few scattering cases of septicæmia, pyæmia, etc. Prof. Osler's cases were typhoid, pneumonia, phthisis and erysipelas. The best results were in cases of typhoid, the poorest in pneumonia, peritonitis and erysipelas, but the defect was not in the direction of untoward effect of the drug, but of simple failure on its part in ordinary doses to reduce temperature to any marked degree. Concerning the dose: a single moderately large dose once a day, preferably in the morning, seems to aid much better than small repeated doses; but when the temperature is brought to the normal by a single large daily dose, it can be held there several days by a very small single dose each day. Cahn and Hepp used first fifteen-grain doses daily, at a single dose or in divided doses close together. Later they employed seven and one-half-grain doses, except in the severer types of high temperature. Eisenhert[10] used doses of only four to eight grains, with good results. Osler employed chiefly daily single doses of eight grains.

In ordinary cases, therefore, four to eight grains would seem a sufficient dose, with no hesitancy in repeating if it should seem advisable. Thirty grains daily is regarded as an absolutely safe limit.

In regard to the method and time of action. The reports referred to show a gratifying uniformity. Temperature begins to fall in about an hour after administration, continues falling for three hours or more, the pulse at the same time diminishing in rate and increasing its tension. Perspiration generally attends the fall in temperature. There is often thirst, and very generally diuresis. The apyrexia persists four to ten hours, quiet sleep generally attending it. The amount of temperature remission is two to seven degrees. The pulse-rate often falls twenty to thirty beats. The increased tension noted is in marked contrast to the action of antipyrin and allied drugs. Cahn and Hepp give sphygmographic tracings,[11] conclusively establishing increased blood pressure, high tension pulse, under the use of antifebrin. The same point has been established in experiments with the drug on animals in Schmiedebourg's laboratory, and it was found that even when injected into the veins antifebrin did not lower blood pressure. This point cannot be too much urged as an advantage in the action of antifebrin over antipyrin, since it shows that where antipyrin depresses and weakens the heart's action and the circulation, and so becomes unsafe in many cases where it would otherwise be valuable, antifebrin stimulates and strengthens the heart and circulation, and so is beneficial in such cases, aside from its apyretic action. Thus a pulse weak and rapid from disease becomes slow, full and regular when antifebrin is given, an action closely suggesting that of digitalis, which is still further carried out in the *diuresis* so generally resulting.

Adding to this many incidental advantages observed, freedom from vomiting (even in those in whom antipyrin caused nausea or vomiting) no irritation of urinary passages, but on the contrary disappearance of albuminuria in some cases, during its use; clear head and feeling of comfort on the part of the patient, and, considering its effectiveness and exceptional safety, antifebrin seems superior to any other antipyretic drug yet discovered. [Within a few days the attention of the reporter has been called to an instance of the use by a girl of sixteen who became cyanotic after taking a teaspoonful of antifebrin. There were no other indications of any unpleasant action.]

As further evidence of anti-rheumatic action the following report of thirty cases is interesting:[12]

THIRTY CASES FROM PROF. FUBRINGER'S CLINIC:

Acute articular rheumatism	10
Phthisis	9
Typhoid	5
Pneumonia	4
Pleurisy	2

At first the daily amount of antifebrin was 2. only, later increased to 6. without bad results. In typhoid single doses of 0.5 were first tried, but later hourly doses of 0.25. The results in all cases were highly satisfactory, temperature fell, pulse became less frequent, patients did well.

In the ten cases of rheumatism the dose given was 0.5–1, the daily amount 3.–4., followed in all cases by complete disappearance of swelling and pain in three to five days. Four of these cases relapsed, three having received less antifebrin than the other cases, the fourth, a very severe case, and only given a total amount of 12.5.

The report closes with the claim for antifebrin in acute articular rheumatism, of "complete cure without the disagreeable incidental effects of salicylic acid."

ANTIPYRIN AND ANTIFEBRIN IN HEADACHE AND EPILEPSY.[13]

The use of these drugs in headache and epilepsy has recently been attracting some attention. Dr. Allan McLane Hamilton, of New York, has published an account of his experience in the *New York Medical Journal*, for May 28, 1887.

He used both drugs in cases of habitual insomnia, in doses varying from three grains to eight grains of

[8] Centralblatt, August 14, 1886.
[9] Berlin klin. Woch., 1887, Nos. 1 and 2.
[10] Deutsch. Med. Zeitung, December 23, 1886.
[11] Berlin klin. Woch., 1887, No. 2, p. 27.
[12] Heinrich Riese in the Deutsch. Klin., Wochschr., November 25, 1886, 835.
[13] Therapeutic Gazette, July 15, 1887, 485.

the antifebrin and ten to twenty of the antipyrin, without appreciable result, though in a case of maniacal excitement, due to nervous exhaustion and connected with moderate rise of temperature 102° F., fifteen grains of antipyrin repeated twice produced refreshing sleep and a subsidence of excitement.

There can be no doubt, however, that in wakefulness due to general disease, especially with high temperature, the value of both these drugs as hypnotics is very great. It would seem as if both remedies were of value in headaches or cerebral states attended by anæmia, or in the excitement due to cell-malnutrition and exhaustion; and though antipyrin seems to be the more serviceable remedy, it possesses drawbacks which do not belong to antifebrin. It would appear as if the remedies were valueless or even harmful in cases of organic or symptomatic epilepsy, but worthy of trial in the light cases attended by rather general cerebral vascular spasm and not much muscular movement. In several cases of petit mal, the good effect of continued doses of antipyrin and antifebrin is manifest, for the losses of consciousness are far less frequent than when the patients were under other treatment. So far as tolerance goes, he has given to one patient forty-five grains of antipyrin in two hours without ill effects.

Dr. Faust, of Dresden, recommends antifebrin in doses of from 0.5–1. gramme for headache. He noticed upon himself that migraine which defied all other remedies disappeared entirely in from half an hour to an hour's time after one of the above doses; he has obtained the same results in many other cases.

Antipyrin is also a useful remedy against migraine, according to Dr. T. S. Robinson,[14] who has used it in eighty cases during the last two years.

The cases were not selected; in fifty-four the drug acted favorably in from thirty minutes to two hours. In fifteen cases the pain was much abated, and when he resorted to chloral, bromides, or other drugs, he had to use smaller doses than the patient had otherwise been in the habit of taking. The relief was greater and the attacks generally cut short. In eight cases it had little or no effect. The reports from successful cases were all in favor of this drug, not only that it was quicker in its action, but that it did not leave the ill effects generally left by other forms of medication. He recommends that patients who are subject to attacks of hemicrania should keep powders of antipyrin of twenty-two grains constantly on hand, and that on the first symptom of the attack one powder should be taken in a little Vichy water, and repeated in two hours if the pain is not abated.

SALICYLATES.

The possible evil results of a long course of salicylic acid or salicylates, formed the subject of an interesting discussion before the French Academy of Medicine, leading to the condemnation by that body of these agents as preservatives in articles of food. The evidence adduced was certainly suggestive of possible renal disease and arterial sclerosis as a result of cumulative irritation from long continued use of the drug, even in very small amounts.

ANTISEPTICS.

Iodoform. The antiseptic properties of iodoform have been seriously called into question by two observers in Copenhagen, Messrs. Heyn and Roosing.[15] They refer to the experiments of Mikulicz, 1881, as indefinite in result, and to those of Rumuno, 1883, as complicated by the use of oil of turpentine in combination. They do not refer to the experiments of Poliakoff, 1884, whose conclusions have an important bearing on the subject: "Iodoform proves an antiseptic *only* as regards the living animal system where it finds the conditions favoring a slow liberation of iodine. Outside the animal body, under an ordinary temperature, iodoform is unable to arrest putrefactive and fermentive processes; it is otherwise under higher temperatures, setting free iodine." The experiments of Heyn and Roosing under consideration were with solutions of iodoform in olive oil and serum, and with the dry powder. They studied the effect of cultures of various bacterial organisms in these mixtures or powder, with a few experiments on animals. Their results, as reported, are sweeping and conclusive against germicide or antiseptic action in iodoform, *under the conditions named*, chiefly being in germ cultures outside the body; that they thus disprove action in the animal system cannot be accepted; although it must be added that the few experiments they report on animals, in purulent and putrefactive processes, seem also to be adverse to antiseptic action. They go a step further in affirming that iodoform itself may contain pathogenic micro-organisms and be the cause of that which it is used to avoid; a carrier of bacterial infection, with the conclusion that as antiseptic or germicide, iodoform is absolutely worthless, and as a dressing or application in surgical practice it is dangerous unless previously sterilized. These conclusions naturally lead the modern practitioner, who has seen the clinical use of iodoform and results obtained, to doubt either the reliability of the experiments, or the whole foundation of antiseptic therapeutics as a theory of micro-organism destruction, and this doubt finds expression in a letter to the *Lancet*, March 19, 1887, from Dr. Glover, of London, who says that the doubt cast on the antiseptic properties of iodoform is contradicted by the practical experience of every surgeon who employs it, and reports one of his own cases, apologizing for the apparent absurdity of reporting one of hundreds that are constantly occurring, in which a badly "poisoned hand" riddled with abscesses and foul with pus, lost all offensive character and healed rapidly under treatment with iodoform.

R. Norris Wolfenden, M.D., Cantab., in an article on "Iodol"[16] says: "I am aware that doubts have recently been cast upon the antiseptic powers of iodoform, but this scepticism scarcely accords with common experience," and a foot-note adds: "The experiments upon which this opinion is based have been declared to be unreliable." Certainly, until these adverse experiments are established as completely reliable, and their results conclusively confirmed, iodoform, *in the animal system*, where alone its action is of practical clinical importance, will continue to hold its position as a powerful antiseptic and germicide agent.

IODOL.

For some time attempts have been made to obtain a preparation of iodoform in all essential characters, without its disagreeable properties, especially its nauseous and persistent odor. Dr. Wolfenden, of the

[14] Therapeutic Gazette, June, 1887.

[15] Fortschritt der Med., January 15, 1887. Lancet, February 12, 1887.

[16] Practitioner, May, 1887, 337.

Hospital for Diseases of the Throat, in London, announces that end attained in "iodol, an efficient substitute for iodoform" (Ref. above). This substance was discovered by Silber and Ciammician, and first used clinically by Mazzoni. Chemically it is tetra-iod-pyrrol ($C_4 I_4 \dot{N} H$), a yellowish brown crystalline powder, nearly odorless, very slightly soluble in water, (1 : 5000), quite soluble in alcohol (1 : 3), very soluble in ether. Solutions darken on standing in the light or at high temperatures, depositing iodine, hence solutions should be kept in bottles of blue glass in the dark, and not exposed to high temperature. It is rich in iodine (88.9 parts by weight) which is readily liberated at body temperature. It has been chiefly used as an external application, and no toxic action has been observed even in long-continued use, an especial advantage, it is claimed, over iodoform. It is undoubtedly antiseptic, added to fluids which readily decompose; they remain undecomposed for months. Reports on its use in nearly all conditions in which iodoform has been used, show equally good results. It can be used (1) as a powder, (2) solution in alcohol and glycerine (iodol 1 part, alcohol 6, glycerine 34); (3) solution in ether (1 : 8); (4) spray, solution in glycerine and vaseline; (4) (iodol 1 — glycerine 1 — vaseline 7) to be warmed before using; (5) bougies ½ grain each; (6) iodol gauze for dressings, etc.

It is summarized as odorless (or nearly so), tasteless, producing no constitutional effects, antiseptic, anæsthetic, a promotor of granulation and healing, arresting suppuration, deodorizing foul secretions.

SALOL.

This substance is a white crystalline body, soluble in alcohol. It is a compound of salicylic acid and phenol, supposed to combine the advantages and action of its two components, and hence employed both as antiseptic and antirheumatic. It was at first thought to be safer than carbolic acid, and less irritating to the stomach than salicylic acid or salicylate of sodium. Cases, however, of constitutional effect, as from carbolic acid have been reported, so that its superior safety is open to doubt, while its advantage over salicylate of sodium in rheumatism is not yet established.

(To be continued.)

Reports of Societies.

AMERICAN GYNÆCOLOGICAL SOCIETY.[1]

TWELFTH ANNUAL MEETING.

WEDNESDAY, SEPTEMBER 14TH. — SECOND DAY. MORNING SESSION.

The PRESIDENT, in a few remarks, called attention to the death of Dr. John Scott, of San Francisco, Cal., and appointed Dr. Thomas Addis Emmet to prepare a memoir for the published Transactions.

THE THERAPEUTIC VALUE OF SOME MEDICINES IN THE TREATMENT OF HÆMORRHAGIC CONDITIONS OF THE UTERUS,

by DR. C. D. PALMER, of Cincinnati.

The author referred to the fact that very few papers on the medicinal treatment of hæmorrhagic affections of the uterus appeared in the eleven volumes of the Transactions of the Society. In hæmorrhage from the uterus, it is important to remove the cause where this can be found. The object of the paper was to speak of the value of certain internal remedies, and their field of utility.

No drug is more frequently used than *ergot*. This is beneficial in many cases, but may aggravate some. It is of service in chronic hyperæmia and in subinvolution. Its effects are less marked in nulliparæ than in multiparæ. In the treatment of uterine fibroids, between the use of galvanism and of ergot, the field of laparo-hysterectomy must be a limited one. The hæmorrhage from fungoid degeneration and from ovarian irritation is better met by other remedies. In some cases of pelvic peritonitis and pelvic cellulitis, the hæmorrhage has been increased by use of ergot.

Digitalis, in appropriate cases, is of service. It is reasonably reliable in uterine hæmorrhage due to cardiac trouble. In atonic conditions of the circulation, weak heart, and low arterial tension, which tend to induce passive hyperæmia, digitalis may be used.

Cannabis indica has been the subject of diverse claims. The drug varies much in strength. It acts more especially on the nervous system. Its indications are imperfectly defined, and its effects uncertain.

Bromide of potassium is useful in certain hæmorrhagic states. It is indicated where there is sexual excitement, and ovarian congestion and irritation. It is not so useful where hæmorrhage is due to uterine irritation, although, in some cases of fibroid tumor, the author had found it more useful than ergot.

Arsenic is of service in uterine hæmorrhage. It is not prompt in its action, but, in appropriate cases, it is effective. It acts as a tonic, stimulating all the functions, and especially those of the skin and mucous membrane. In chronic endometritis, with or without fungoid degeneration, a course of arsenic will be of material service. It is of value in the case of young girls when menstruation appears too frequently, and continues too long. In menorrhagia at the time of the climacteric, it is of service, although its effect is less decided than in the former group of cases. Arsenic is a good remedy in menorrhagia of malarial origin.

Gallic acid is the best representative of the astringent class of remedies, and has been repeatedly tested in hæmorrhage due to uterine atony. Its large dose, unpleasant taste, and tendency to disorder digestion, limit its use.

Active cathartics, particularly so-called cholagogues, as mercury, are useful in uterine hæmorrhage of hepatic or splenic origin.

It is the custom with many to use iron in the intermenstrual period. Iron tends to promote pelvic congestion, and is almost universally injurious. Where there is menorrhagia due to hyperæmia, the muriated tincture of iron is beneficial.

Viburnum prunifolium, hydrastis, and gossypium have been recommended. Dr. Garrigues has reported one hundred and thirty-nine cases of uterine hæmorrhage from various affections in which he used gossypium, with the result of relieving the hæmorrhage in one hundred and twenty-five cases.

The last remedy referred to was hamamelis virginiana. If thoroughly tried, this is usually efficacious. The author had employed this drug, with satisfactory result, for six or eight years. It is not equally potent in all cases of uterine hæmorrhage. For active, profuse hæmorrhage, it is inferior to ergot, but for slight, long-continued flux, where the blood is dark and

[1] Continued from page 318.

venous, the hæmorrhage being passive in character, it is the remedy *par excellence*. This condition occurs in flabby, subinvoluted uteri after delivery or abortion, in some forms of chronic endometritis, in chronic retroversion, and in some fibroids. He had also used it, with good effect, in several cases of vesical hæmorrhage from papilloma. The best preparation is the officinal fluid abstract, in doses of a few drops to two drachms. None of the remedies here mentioned were intended to supersede local medication, where indicated.

DISCUSSION.

Dr. Fordyce Barker, of New York. I believe that every one of the remedies mentioned is of special value in certain cases, and success in treatment depends upon a careful selection of the cases. A drug useful in one class of cases may be inert or injurious in another class of cases. Arsenic is useful where the system is broken down, and the patient is approaching the climacteric. It is useful not only from its tonic effect, but also from effect in controlling vaso-motor disturbance. It is of special value if, three or four days before each menstrual period, the patient is put on rather free doses of bromide of potassium. The arsenic is used only in the inter-menstrual period.

Where the hæmorrhage continues, and is profuse, the most valuable remedy is the fluid extract of hydrastis, combined with fluid extract of hamamelis, half a drachm of each being given. Six or eight drops of tincture of nux vomica may be added, if there is an atonic condition.

I have used viburnum prunifolium largely in passive hæmorrhage occurring at an early period of gestation, and in threatened abortion. I have found great benefit in cases toward the climacteric in the use of protoiodide of mercury, with iron and a small quantity of opium.

There is another class of cases not specially alluded to, and that is profuse hæmorrhage in very young girls, perhaps at the first menstrual period. In one of these cases, where hæmorrhage was exceedingly profuse, I relieved it by introducing a cone of alum, wrapped in a piece of linen, and passed into the vagina. This restrained the hæmorrhage. In other cases, I have relied on ergot and gallic acid, five drops of the former, with five grains of the latter, dissolved in mucilage.

Dr. Lloyd Roberts, of Manchester, Eng. I have very little confidence in any drug, except ergot, in the treatment of uterine hæmorrhage. The great point in the use of ergot is to get a good preparation. In cases of hæmorrhage at the menopause, where the uterus is flabby, and in the case of young girls, the best results are obtained by giving it in the inter-menstrual period. In malarial hæmorrhage, I have found quinine better than arsenic. Gallic acid is the next best remedy to ergot. I think that the good effects of gallic acid are due to its local action. Except in cases where the hæmorrhage is due to congestion of the ovaries, I should think that the use of bromide of potassium would be of little benefit.

Dr. W. Balls-Handley, of Melbourne. I do not see how the remedies referred to are going to act in restraining hæmorrhage. If their use is to be supplemented by operative measures, it is hard to say what does the good. Take a case of fibroid tumor: the growth is surrounded by muscular fibres. There does not seem to be the slighest impression in the minds of those who have spoken, that if these drugs can cause contraction of the muscular, they may cause the tumor to be forced towards the peritoneal cavity. I have given ergot, and I cannot say that I have had the slightest benefit from its use. We must consider the natural history of these affections. Some fibroids increase very slowly, while others grow very rapidly. I have never seen the growth of one of these stopped by the use of ergot. I have thought that I have had some effect from the action of ergot, locally applied, a piece of cotton being saturated with the fluid extract.

I would speak of one remedy; that is, the tincture of the sesquichloride of iron. Some of these women are so anæmic, that they go on bleeding simply because there is no power of contraction. In these cases, the preparation referred to, in doses of half a drachm, three times a day, is of value.

Dr. J. A. S. Grant (bey), of Cairo, Egypt. I have had but little experience with these drugs. Two years ago, I was called by a doctress to see a patient. There was a tumor, and uterine hæmorrhage recurred every ten days. The case had previously been diagnosed as fibroid tumor, and removal of the ovaries recommended. I found a history of syphilis, and, as hæmostatics had been thoroughly tried for months, I decided to use mercury. Stimulants and cinchona bark were also given. The hæmorrhage ceased, and the tumor, which was as large as a child's head, gradually diminished in size, and in three months the woman was able to return to work.

Dr. H. P. C. Wilson, of Baltimore. When I exclude cases of submucous fibroids, cases of granulations, and cases of polypi, the number of instances of uterine hæmorrhage is very small. I have very little confidence in any remedy as a hæmostatic in these cases. The most trouble is experienced in young girls commencing menstruation. In these cases, attention should be paid to the general health, the bowels should be regulated, and exercise enjoined.

Dr. James R. Chadwick, of Boston. I will speak of one remedy which I have found peculiarly efficacious, and that is Chian turpentine. I have used this in hæmorrhages from all causes, with surprising results. In one case, a young lady had been losing blood for the greater part of two years. Dilatation had been done, and curetting had been employed on several occasions. I could find no definite cause. She was given six grains of Chian turpentine, three times a day. Menstruation at once became regular, and has remained regular. I think that ergot, given between the flows, is of more service than when given during the hæmorrhage. During the flow, I am in the habit of giving aromatic sulphuric acid.

Dr. Wm. L. Reed, of Glasgow. I would merely refer to a drug which was formerly used. In certain cases, where no apparent cause could be found, and where ordinary hæmostatics failed, I have found alum of service, given in doses of twenty grains a day. When the immediate attack has ceased, I give sulphate of magnesia, with sulphate of iron. I have great confidence in arsenic where there is disease of the endometrium. I prefer the iodide of arsenic.

ALEXANDER'S OPERATION,

by Professor Dolores, of Paris.

The speaker treats cases of retroversion of the

uterus by shortening the round ligaments, where all other measures of treatment have failed. Where there is retroflexion, he first overcomes the flexion by three or four forcible dilatations, and then shortens the round ligaments. In cases of prolapse, he first restores the uterus to a normal condition. If the cervix is abnormally long, it is amputated, and the round ligaments are then shortened. Anterior and posterior colporrhaphy are also performed. In cases of anteversion, there is no need to shorten the round ligaments, as the pressure of the abdominal contents does not come upon the uterus, as in the case of retroversion. In these cases, the vaginal operation is sufficient. The object of the shortening of the round ligaments is not to suspend the uterus, but to antevert it.

DISCUSSION.

DR. WM. L. REED, of Glasgow. One of the most important points to which attention should be called, is that, even when a successful operation has been performed in a case of chronic retroversion, you must not expect the patient to feel quite well in the course of a few weeks. All that the operation does is to restore the position of the uterus. It does not alter its condition. The patient will probably be no better three months after the operation than before it, especially if care is not taken.

The principal difficulty in the operation is to find the ligaments, for, after leaving the inguinal canal, they divide extensively. If you dissect down upon the ring, a good many of these fibres are destroyed. The dissection should be made clear of the abdominal ring until the tendon of the oblique muscle is reached. Then, by pressing on the canal, a little fat is forced out. This can be picked up carefully, and the fibres of the ligament separated, and usually there is no difficulty. The after-treatment is most important. If you take a case of prolapse, with the uterus down to the woman's knees, shorten the ligaments, and allow her to be about in two weeks, you need not be surprised if the trouble is soon reproduced. The patient should be kept in bed five or six weeks, and afterwards, she should wear a well-fitting pessary for five or six months. A pessary that, before the operation, could not be kept in place one hour, will remain without difficulty after the operation.

DR. A. MARTIN, of Berlin. I have not performed this operation, but my colleagues have done it in a small number of cases. I should not object to performing the operation when a suitable case presented itself. From my experience, I am led to believe that we exaggerate the importance of prolapse. I have seen many cases where the patient suffered this displacement without discomfort. I do not think that an operation on the ligaments without restoration of the pelvic floor will give a certain hope that the uterus will be retained within the pelvis. In these cases, I perform Hegar's operation. We cannot retain the uterus in its place either by narrowing the introitus of the vagina, or by narrowing the canal. It is only by a restoration of the pelvic floor that it can be retained. Hegar's operation consists in making a strong cicatrix in the floor of the pelvis, and I have performed his operation with satisfaction.

DR. WM. T. LUSK, of New York. I have performed Alexander's operation a number of times. The operation is simple, and easy to perform, except where there is great atrophy of the abdominal walls. I consider it absolutely devoid of danger, if performed with ordinary cleanliness. There is no reason why this operation should not be employed in cases where a pessary will not remain. I have done Hegar's operation, but I have never found that the cicatrix has prevented sagging down of the uterus. If the uterus is held forward after Hegar's operation, I think that the prolapse will be overcome.

DR. C. C. LEE, of New York. I have done Alexander's operation about nineteen times. The operation is indicated in those cases where a pessary cannot be borne, on account of the abnormal tenderness of the vaginal vault, although no distinct pelvic peritonitis or cellulitis can be detected. It may be used in cases of retroversion of the uterus, with chronic salpingitis, which cannot be cured without laparotomy. It is also to be employed in a limited class of cases where there is complete procidentia, and where the usual plastic operations have failed to keep up the uterus. In such cases, where there is a laceration of the cervix, I do not attempt to do Alexander's operation without, at the same time, closing the tear. Where the uterus is bound down by adhesions, this operation is not indicated.

DR. HOWARD A. KELLY, of Philadelphia. I have done this operation for three years. It is folly to expect a heavy uterus to be held over a large open canal by two ligaments. If the cervix is hypertrophied, it must be removed. Suitable operations should be performed on the vagina. In the case of a heavy uterus, the round ligaments acting at right angles to the organ are at a disadvantage when we attempt to raise the womb. In one case, therefore, I substituted hysterorrhaphy, with entire success.

THE PRESIDENT'S ADDRESS

was then delivered by DR. ALEXANDER J. C. SKENE, of Brooklyn.

He first referred to the organization of the American Gynæcological Society, which occurred in the Hall of the Academy of Medicine, New York, twelve years ago. The Society has passed its age of development and entered upon its period of growth. The object of the organization is to promote science and art, not to regulate the relations of the profession to the public. The usefulness of a medical society depends upon its objects. When called into existence by the necessities of man, and for the benefit of the human race, it is enduring. America is notable for the rapid development of gynæcology. The first Gynæcological Society in the world was organized at Boston. Modern gynæcology is but seventy-five years old, but much has been accomplished. The advance of gynæcological surgery has been marvelous. At least ten of the most serious operations on the human body belong to gynæcology. Over seven hundred and eighty different instruments have been devised for the diagnosis of diseases of women. For the correction of displacements, there are in use some three hundred different pessaries. The growth of the literature of gynæcology has been surprising. About six thousand books pertaining to this subject have been published in the last seventy-five years, and in the last eight years eight hundred and four books and seven thousand journal articles and pamphlets have appeared. The majority of these have been devoted to surgical gynæcology. Since the discovery of the effect of germs and the means of counteracting

their influence, operative gynæcology has taken a prominent position, perhaps too prominent, but it will soon find its true level. Instead of pushing on, would it not be well to stop and consider what has been accomplished? The major portion of the time of this society has been given to surgical subjects. This should not be so. As much attention should be elicited by the discussion of a functional affection as by the report of a case in which the surgeon has removed all the organs of the body with the exception of those absolutely essential to life. There is room for more definite knowledge with reference to pathology and especially with regard to nomenclature. There are still interesting fields to be explored, and the greatest of these is with reference to preventive medicine. Gynæcology has much to accomplish in this direction. Brilliant reputations have been made by the removal of the tubes and ovaries, but little has been done in the way of preventing the diseases which lead to their destruction. In the present state of society more honor is accorded him who relieves the ills of man than is given to the one who prevents them. In obstetric medicine greater advance has been made in this direction. Vesico-vaginal fistula which formerly were very frequent, have almost entirely disappeared under modern methods of obstetric procedure.

Progress in gynæcology would be hastened by improvement in the medical press. In this country there is too much writing in proportion to the amount of thinking and practice. The most copious writers are not the most distinguished in practice.

THE TREATMENT OF THE PEDICLE IN SUPRA-VAGINAL HYSTERECTOMY,

by Dr. George Granville Bantock, of London.

The surgical treatment of fibroid tumors of the uterus has attracted a great deal of attention during the last ten years. Considerable progress has been made in the last three years, mainly in the treatment of the pedicle. In his first operation the speaker ligatured the pedicle, applied the cautery, split the pedicle into an anterior and posterior portion and brought these together with sutures. The patient died four days later of septic poisoning. It is a peculiarity of uterine tissue that it shrinks under strong pressure. In this case the ligatures soon became loose and there was oozing into the peritoneal cavity. In the next case the pedicle was tied in three portions and surrounded by a silvered copper wire and transfixed with two long needles. It was brought into the lower angle of the wound. Thirteen hours after operation there was a free flow of blood, which was arrested by the cautery. On the ninth day, as the copper wire did not make sufficient pressure, a wire ecraseur was substituted, and this succeeded in reducing the size of the stump. As now performed the operation consists of surrounding the pedicle with a soft iron wire attached to a small ecraseur by which the wire can be tightened. Before cutting away the pedicle it is important to transfix it with needles to prevent the wire from slipping. After the body of the uterus is removed the pedicle is secured in the lower angle of the wound. In some of the cases reported, the pedicle, which at the time of operation, was two or three inches in diameter, was reduced to one-third of an inch in diameter, when the wire came off at the end of the eighteenth or twentieth day. The author did not think that the operation could be improved by substituting the intra-peritoneal method of treating the pedicle. Thirteen cases of pediculated fibroids treated by the extra-peritoneal method, recovered, while two treated by the intra-peritoneal method died.

With reference to the after-treatment of the pedicle, Dr. Bantock said that if the pedicle is properly secured at the time of operation, the less it is interfered with the better. The serre-nœud should not be touched in less than four or five days, unless there is oozing, in order not to disturb the adhesion of the peritoneum. If there is bleeding it usually occurs within a few hours. If the pedicle is thick it may be necessary to tighten the wire. When the stump comes off, the dry or wet method of treatment may be employed. The former consists in dusting iodoform on the part. The latter consists in washing the part with a solution of sulphurous acid, 1 to 9, and then applying equal parts of rectified spirits and glycerine.

The author's statistics were as follows: fifty-seven cases of supra-vaginal hysterectomy with forty-five recoveries and twelve deaths. In five of the fatal cases there was pronounced disease of the kidneys. In one there was acute enteritis. In two there was hæmorrhage. In one there was obstruction of the bowel, and in two, septicæmia.

The discussion of Dr. Bantock's paper was made the first order of business for Thursday morning.

(To be continued.)

PHILADELPHIA PATHOLOGICAL SOCIETY.

W. E. Hughes, M.D., Recorder.

Stated meeting, September 22, 1887, the President, Dr. J. C. Wilson, in the chair.

Dr. W. Osler presented a specimen of

THROMBOSIS OF THE PORTAL VEIN.

Chronic obstruction to the blood-flow in the branches of the vena portæ within the liver, such as occurs in cirrhosis, is probably the most common cause of this rare condition. We not infrequently meet with atheroma in the portal vein and its branches in cirrhosis, one factor in the production of which, as in the pulmonary artery in mitral stenosis, is the heightened blood-pressure, and to this change, the thrombus-formation is closely related. At first, and possibly for a long time, mural, it gradually becomes obliterating; and if the collateral circulation is established, the patient may live some time, as in a case which I reported in 1882,[1] in which the vein was represented by a firm, fibrous cord. The specimen here shown was taken from a Swede, aged about forty-five, who was admitted to the University Hospital, May 7th, with ascites. As he could not speak English, it was difficult to obtain a history, but we ascertained that he had been in failing health for some time, and latterly, his abdomen had become swollen. It did not appear to have come on suddenly. The liver dulness was reduced, the superficial abdominal veins were moderately distinct, and the case was regarded as one of ordinary cirrhosis. He was tapped five times between May 20th and July 14th, and from twelve to fifteen pints of serous fluid removed on every occasion. He was able to be up and about after each tapping, but he gradually became emaciated, weak, finally comatose, and he died July 20th. There were no hæmorrhages,

[1] Journal Anatomy and Physiology.

and it may be stated that the abdominal veins were at no time more distended than is common in atrophic cirrhosis. The condition, post-mortem, was as follows: Fibrous adhesion in peritoneum; atrophic cirrhosis of liver, with thickened capsule; old, firm thrombus in vena portæ, extending into splenic and mesenteric veins; thickening and patchy calcification of the walls of the portal vessels; great enlargement and induration of the spleen; kidneys indurated; no special changes in thoracic organs. A careful dissection of the abdominal veins was not made, but I am told by Dr. Miall, who made the autopsy, that the peritoneum was very dark, and the veins behind the liver very large. The collateral channels were, no doubt, largely the anastomoses which exist between the peritoneal, mesenteric, and lumbar veins, and the gastric, diaphragmatic, and œsophageal vessels. As in the case of fibroid obliteration referred to, a perfect collateral circulation may be established in occlusion of the portal vein, and the patient may live for months or years. In this instance, the thrombus was evidently old, as, in places, there were calcareous changes. The branches in the liver were filled with soft clots. The gall-bladder was full of normal bile. In two other cases of cirrhosis, I have met with thrombi in the portal vein in both instances, with thickening and atheromatous changes in the vessel walls, but the thrombi had not undergone such degenerative changes as in this specimen.

Dr. H. F. Formad presented a specimen of

CHRONIC HYPERTROPHIC CIRRHOSIS OF THE STOMACH, WITH GASTRIC ULCER AND COLLOID CHANGES OF THE MUCOUS MEMBRANE.

A sailor, aged thirty-eight, a German, was admitted to the Naval Hospital, ten months ago, with the symptoms of dyspepsia and occasional vomiting. There had been absolutely no pain at any time, and no vomiting of blood. Three months before death, he began to have serious difficulty with swallowing, with œsophageal regurgitation, and though a stricture was sought for, none was found. Very curiously, for a few days immediately preceding death, he swallowed well. Death resulted from starvation. At the autopsy, the abdominal cavity was found to contain fifty-two ounces of straw-colored fluid, and showed evidences of old peritoneal inflammation, especially at the upper part, where the organs were matted together into one mass. The stomach was quite contracted, having a capacity of four to five ounces. Its walls were one-half to one inch thick, the thickness greatest at the cardia, and gradually decreasing till within two inches of the pylorus, where the wall abruptly resumed its normal condition. The first impression given was that it was a case of cancer, but closer examination showed it to be simply great thickening of the wall, with polypoid elevations of the mucous membrane, and secondary colloid change. The ulcer was situated in the posterior wall, near the cardia, its bottom formed by scar tissue in the spleen, and the peritoneal coat of the transverse colon. Communication with the abdominal cavity had been prevented by firm adhesions. The omentum contained a number of colloid granules as large as peas. The abdominal lymph-glands appeared to be amyloid. The case was remarkable, first, in the complication of hypertrophy with gastric ulcer, which was a condition that the reporter had never before seen; second, in that the hypertrophy should commence at the cardia, instead of at the pylorus.

Also,

A STAB-WOUND OF THE ABDOMEN.

Laparotomy had been performed, and a wound of the intestine found, which was sutured. The man died suddenly, sixty hours after the operation. At the autopsy, there was only a very slight amount of peritonitis found, and the wound in the intestine had firmly united. The abdominal condition not being sufficient to account for death, the brain was examined, and a very distinct embolus in the floor of the fourth ventricle found. The stomach had not been touched, but on its peritoneal surface were some slight tears, and opposite them, in the mucous membrane, but not corresponding exactly with them, were several distinct, small, linear ulcers, which appeared like ulcers due to some injury. They did not look at all like ordinary ulcers, but still had evidently formed *ante-mortem*. There was an old hæmorrhagic infarct of the kidney.

Dr. Osler had been particularly interested in the specimen, and had hoped that possibly it might prove to be related to the formation of gastric ulcer in the way pointed out by Dr. Baumgarten, and to which he wished to call attention; namely, that the movement of the stomach against the costal edges produces distinct localized thickenings, and that, in corresponding points of the mucous membrane, ulcers form.

Also,

A GUN-SHOT WOUND OF THE HEART.

The ball had entered the chest, between the fourth and fifth ribs on the left, passed through the left ventricle, and was found imbedded in the spinal column. Death was instantaneous. The principal point of interest lay in the fact that the ball had traversed the cavity of the left ventricle, near its base, without injuring the chordæ tendiniæ, or the leaflets of the mitral valve.

Dr. Wescott presented a

MEDIASTINAL TUMOR,

removed from a man, aged twenty-eight, who had entered the University Hospital a week ago. He was a brakeman, with good family history and personal habits, and no venereal history. He had been in good health, and at his work, till last July, when dyspnœa developed, and he quit work. About the same time, he noticed a tumor in his neck. There was no pain nor difficulty of swallowing. On admission, he was in a condition of orthopnœa. Over the left side of the chest there was complete dulness, extending to the right edge of the sternum, with absence of respiratory murmur. The apex-beat of the heart could not be seen or felt. The tumor of the neck involved the superficial lymph-glands, and could be traced behind the sterno-cleido-mastoid muscle, and down into the chest. There was no inequality of the pupils, and no œdema. At the autopsy, on opening the chest, nothing but a large, fleshy mass and the edge of the right lung could be seen. The mass penetrated the chest-wall, between the first and second ribs, and became continuous with the tumor in the neck. It was closely attached to the bodies of the dorsal vertebræ from the first to the fourth, filled all the upper part of the left chest, and completely enveloped the great vessels. The œsophagus was pushed to one side, but not compressed. The left lung was completely collapsed, and

contained numerous secondary nodules. The heart was pushed down and back, but was normal. The mesenteric glands were enlarged. A section of the tumor showed largely fibrous tissue. The reporter asked whether, in the case of such a large mass, the absence of pressure symptoms was not remarkable.

DR. J. B. WALKER said that in the absence of pressure symptoms, such a large tumor was, in his experience, unique, generally very much smaller ones giving rise to marked symptoms.

NEW YORK STATE MEDICAL ASSOCIATION.

FOURTH annual meeting, held at the Hotel Brunswick, New York City, September 27th, 28th, and 29th, 1887.

FIRST DAY — MORNING SESSION.

The report of the Committee of Arrangements was read by DR. CHARLES A. LEALE, in which he extended to the members a hearty welcome.

THE PRESIDENT'S ADDRESS.

DR. ISAAC E. TAYLOR then proceeded to read his address, in which he spoke of the past success of the Association, of the indications of continued success, urged upon the members the full discharge of the duties devolving upon them individually, and gave expression to feelings of sorrow at the loss by death of several worthy and prominent members.

Turning, then, to the main subject of his address,

LUPUS SERPIGINOSUS OF THE CERVIX UTERI AND GENITALIA OF WOMAN,

Dr. Taylor described a case which had come under his observation, and presented a cast of the external organs. The disease began in the cervix and was first seen by him in 1885. Its course was interrupted by a period of comparative health; it then renewed its activity, extended to the vulva where it was manifest in the hypertrophic form, involved the clitoris and urethra, and finally ended in the death of the patient.

The rarity of this affection of the female genitalia, the fact of its existence being doubted by some, the differential points from cancer, tubercular disease, etc., were dwelt upon. It remained to determine whether the disease was due to a special organism. The treatment was as unsettled as in former years, and varied according to the views of the physician having charge of the case and the symptoms manifest. A principle to be borne in mind in the treatment, was not to do injury to the healthy tissues beneath and around the diseased part. In this case the escharotics had been abandoned for solutions of nitric acid.

THE USE OF HOT WATER IN SURGERY.

DR. THEODORE R. VARICK, of Jersey City, read this paper as supplementary to two which he had read the past three years at other meetings, one of this association. His intention was to reply to criticisms and to give further statistics in support of the method. The water employed by him was only a little below the boiling point. It was brought from the boiling kettle, and applied by means of a clean sponge or linen cloth dipped into the hot water and applied to the operation wound; and when applied was probably of a temperature of about 188°F. Its effect was to coagulate the albumen, and hermetically seal the bloodvessels against the entrance of germs or extraneous matter. As long as bleeding was active, there was little danger of sepsis, but when oozing ceased, if the vessels were not sealed, there was danger of the absorption of germs. Hot water was also a cardiac stimulant, and counteracted the shock which was present in greater or less degree in all major operations.

Dr. Varick gave the statistics of mortality after amputations by different surgeons in as many as six thousand cases, the mortality averaging thirty-two per cent., *plus*. Of fifty-three amputations performed by him since 1879 in which he applied hot water to the wound, there had been only three deaths, or a mortality of less than six per cent. Most of the cases were railroad injuries. In one of the cases death was due to angina pectoris, in another to secondary hæmorrhage, and in only one to septicæmia, arising, he felt confident, from the other wounded foot which was not operated upon. Dr. John D. McGill had amputated in twelve cases, applying hot water, without a death. It was not sufficient to apply the water warm, as some who failed to understand the principle of the treatment had done.

A vote of thanks was extended Dr. Varick, a resident of New Jersey, for his paper.

BI-CHLORIDE OF MERCURY; ITS USES AND ABUSES.

DR. CHARLES S. WOOD, of New York, thought that this powerful drug, unless its use was surrounded by proper restrictions, would do more harm to the human race than good. Some years ago, before its germicidal properties came into prominence, he had employed it in certain cases of phthisis, with, he believed, good effects. While it had not been shown to possess the power of killing the bacillus tuberculosis when taken internally, he thought it probably exerted a beneficial influence in counteracting the effects of the ptomaines developed by these.

Another class of cases in which it had been of utility in his hands, were those of Bright's disease. In several cases he attributed to it the effect of relieving symptoms and prolonging life, and enabling the patient to go about his duties with comfort. Its use in syphilis was touched upon, as well also in surgery. He cautioned against the too frequent and careless use of bichloride of mercury both in internal administration and in surgical dressings. It could never arrest any disease of acute or infectious character by killing germs after internal administration; for, given in sufficient doses to effect this object, it would first kill the patient.

A CONTRIBUTION TO THE STUDY OF HIP-JOINT DISEASE.

DR. NATHAN JACOBSON in this paper favored the view that hip-joint disease usually had traumatism back of it, and that accompanying pulmonary tuberculosis did not necessarily mean the hip-disease was primarily tubercular in origin. In one of two cases which he related there were signs of pulmonary tuberculosis which cleared up with disappearance of joint symptoms following operation, and he said that whether the pulmonary trouble was secondary to the affection of the joint, or whether they were concomitant but independent affections, must remain a matter of conjecture. That the disease of the lung was

largely influenced by the joint disease, he was convinced. The existence of tuberculosis of the lungs should not be a contra-indication to operative procedures in hip-joint disease. One case was cited illustrating a class which would do best under rest and hygienic measures.

FIRST DAY.— AFTERNOON SESSION.

DISCUSSION ON THE MANAGEMENT OF COMPOUND DISLOCATION OF THE ANKLE-JOINT.

Dr. E. M. Moore opened the discussion by a paper in which he showed by extracts from Astley Cooper, and writers from his time down to the present, that there had been manifested here and there a tendency to adopt more conservative methods of treatment in compound dislocations of the ankle-joint. This tendency to conservation, however, had been too little marked, and even at the present day had taken a less firm hold on surgeons than it should. Dr. Moore referred briefly to five cases which had come under his observation, in none of which had he found it necessary to perform primary amputation, and in none had there been a fatal issue. Four recovered with useful limbs: in one the dressing exerted some compressing effect and led to gangrene, and amputation was performed. The patient recovered. An ideal result was obtained by a friend in the case of an elderly lady who recovered with apparently a perfect limb, as shown by a cast, and who was able to walk without a limp. It would have to be a severe case to lead him to do amputation in the first instance. Where practicable he would choose Syme's amputation.

Dr. Uri C. Lynde discussed the question

WHEN SHOULD AMPUTATION BE PRACTISED, AND WHEN SHOULD OTHER METHODS BE EMPLOYED?

In answer to the first part of the question, Dr. Lynde said that of modern writers only a few had been specific enough in the expression of their views for them to be of any value. From his own experience he divided the cases into two classes. If there was only contusion in connection with the dislocation, and that contusion were confined to one side of the ankle, and covered a limited surface, we should not amputate, although sloughing might take place, but if the contusion were extensive, on both sides of the ankle, and especially if the injury of the bones were severe, it would be our duty to amputate at once. If the injury to the bones was not extensive in connection with rupture of the posterior tibial artery, the case should be treated conservatively; if the injury to the bones was marked, the astragalus being comminuted, rupture of this artery would suggest the propriety of amputation. The same rule applied in connection with rupture of the anterior tibial artery. While surgeons would not, owing to rupture of the nerves alone, amputate, yet this accident might, in a particular case lead to an unfavorable result.

With all the safeguards of modern treatment thrown around it, primary amputation is not without danger. It was fair to state that modern surgery had done, and could continue to do, more toward rendering amputation safe than it had, or could, toward rendering conservative methods safe. But if the surgeon failed to save the foot, there still remained a chance for secondary amputation. If he made a mistake it should rather be on the side of conservatism.

IF AMPUTATION IS TO BE PERFORMED, AT WHAT POINT SHOULD IT BE MADE TO RENDER THE STUMP MOST USEFUL, THE RISKS TO BE ENCOUNTERED BEING EQUAL?

Dr. Joseph D. Bryant, of New York, read a brief paper in discussion on this subject. He thought the choice lay between two methods: first, Syme's amputation, second, amputation at the junction of the middle and lower thirds of the leg. Which of these two ought to be selected was a matter, he thought, which could quite easily be determined. Syme's amputation should be selected in all cases when the vitality of the soft parts would warrant a reasonable belief that a serviceable stump could be procured by usual flap procedure. If, when amputation of the leg was performed, the bones were divided just above the malleoli the stump would not be oval; a stump would be formed with a bulbous extremity, which would require an artificial limb with a carefully fitting socket. The conclusions drawn by Dr. Bryant had been concurred in by several gentlemen engaged in the manufacture of artificial limbs. Pyrogoff's amputation was most objectionable from this standpoint.

Dr. Charles W. Brown discussed the question:

SHOULD THE LUXATION BE MERELY REDUCED, OR SHOULD SOME BONY TISSUE BE REMOVED, AND IF SO, HOW MUCH?

He said that bone should be removed when it is protruding considerably, and cannot be returned to its normal position without further injury to the soft parts, or when a portion of the periosteum has been removed, or when the head of the bone has been crushed or broken. As to the amount of bone to be removed, much would depend upon the nature of the injury. If the articulating surface of bone is pushed completely out through the soft parts, the safest plan is to saw it off; but if dislocation is not complete, and the joint is simply torn open, the wound should be thoroughly cleansed and dressed antiseptically without the removal of bone.

WHAT DRESSING AND AFTER-TREATMENT WILL CONDUCE TO THE BEST RESULT, WITH THE LEAST RISK, TO THE PATIENT?

This subject was discussed by Dr. Frederic S. Dennis, of New York. He said: It is assumed that the question of amputation has been considered, and amputation is not to be employed. Where conservatism is to be practised, partial resection may be resorted to to put the wound into an aseptic condition. The foot, toes, ankle, and leg should be washed, scrubbed, shaved, and irrigated, preparatory to examination of the wound. Enlarge the original wound, explore thoroughly the interior of the joint, make a counter-opening. All loose pieces of bone, cartilage, and foreign bodies should be removed, loose tendon, fascia, or muscle cut away, the joint thoroughly irrigated with warm solution of bichloride of mercury. A rubber drainage-tube should be carried directly through the cavity. Some surgeons, however, thought a counter-opening should not be made. The joint being free from extraneous matter, wet towels, wrung out of bichloride solution, should surround the parts. If tendons showed resistance in reduction of the dislocation, they should be divided subcutaneously, in order to secure rest of the joint. The splint should depend upon the special circumstances arising in each case.

In the majority of cases, he thought the plaster-of-Paris bandage should be employed. The danger of its being applied too tightly could be avoided by the use of cotton. After a final irrigation, iodoform should be sprinkled over the wound, a thin strip of iodoform gauze be put over the wound, a wet bichloride bandage of double-fold placed on the ankle and leg, and a layer of borated cotton, held on by bandage. Over this, plaster-of-Paris could be snugly applied, the dressing underneath affording ample elasticity to prevent constriction from inflammatory swelling. Four strips of iron might be used to strengthen the plaster-dressing. At the expiration of three days, a fenestrum should be cut at the side of the drainage-tube, and when the tube was withdrawn, it should be done under continuous irrigation. The advantages of this splint are: complete immobility; freedom to move in bed; to dress the wound without disturbing the bones; uniform and comfortable compression, to prevent infiltration; comfort to the patient during healing; convenience to the surgeon during after-treatment.

A CASE OF CYSTITIS TREATED BY COLPO-URETRO-CYSTOTOMY, IRRIGATION OF THE PELVIS OF THE KIDNEY, AND INTRA-VAGINAL DRAINAGE.

DR. NATHAN BOZEMAN, of New York, read a paper with this title, which was supplementary to one read at the Ninth International Medical Congress. By means of the new instrument devised by him, urine passing through a vesico-vaginal fistula could be carried to the urinal without coming but to a limited extent in contact with the walls of the vagina, and without injurious effects. During experiments with this method, he had opportunity to pass a rubber catheter up through the ureter into the pelvis of the kidney, and repeatedly irrigated that organ, which was the seat of disease. The procedure was not difficult, was not painful to the patient, and could be practised with safety. His patients had returned to their homes immediately after such an irrigation. The method opened a new field in the treatment of diseases of the kidneys. It was free from the objections pertaining to nephrotomy and nephrectomy.

DR. H. D. DIDAMA then read a paper on

METHODS OF APPLYING COLD.

A review of ordinary methods having been given, he described his own, which was effectual, comfortable to the patient, and inexpensive. A rubber sheet was laid upon a mattress; on one side of this, a folded cloth, wrung out of cold water; also a pillow; another rubber sheet — an ordinary sheet, on which the patient lay. When necessary to renew the cold, cloths wrung out of cold water should be placed between the rubber sheets on the other side of the bed, and the patient be lifted over by wooden bars rolled up in the edges of the sheet.

GALL-STONES.

DR. ROBERT H. SABIN, himself subject to gall-stones and biliary colic, read the paper, in which he took the ground that gall-stones formed only during an alkaline state of the system, as indicated by the alkalinity of the urine. His treatment was by bichloride of sodium, taken in water at intervals during the day, until the urine became alkaline. An interesting case was cited, that of a woman who, at times, passed as many as a teacupful of gall-stones, the size of hulled peanuts, and closely resembling these.

(To be continued.)

Recent Literature.

Sphygmography and Cardiography. By ALONZO T. KEYT, M.D. Edited by Asa B. Isham, M.D., and W. H. Keyt, M.D. New York and London: G. P. Putnam's Sons. 1887. pp. 229.

The late Dr. Keyt was well known as the inventor of a compound sphygmograph, and as a contributor to the periodical medical press of articles on the application of the graphic method to the study of the cardiac and arterial circulation in health and disease. His premature death doubtless prevented him from the presentation of his work in a connected treatise, such as that which his friend and his son have prepared. "Nothing more is assumed on the part of the editorial supervision than that it presents Dr. Keyt's work in an available shape to the profession."

The book includes two parts, the first physiological, comprising 148 pages; the second clinical. Keyt's compound sphygmograph is fully described and figured. It traces pulsations of the heart itself, of any accessible artery, of the fontanelle, of pulsating tumors. But it does far more than this, for simultaneous tracings can be taken on the same plate of, for instance, the cardiac and peripheral pulsations, the relation of which to one another as regards time is recorded by a chronographic tracing. It is readily converted into a pneumograph or plethysmograph, and can be used as a kymograph. The main difference between Keyt's and Marey's compound sphygmograph is that the former uses water where the latter uses air to transmit the pulsations.

The value and the limitations of the simple sphygmograph are well set forth by Broadbent in his Croonian Lectures on the pulse, delivered in London during the past winter. The compound instrument has already made important additions to our knowledge of the circulation in health and disease, and promises more in the future.

Among the subjects dealt with in the physiological section are the velocity of the pulse-wave and the causes of its variation; the relation of the ventricular systole and diastole to each other, and the presphygmic interval — the portion of the systole between the commencement of ventricular contraction and the opening of the aortic valves. This interval varies slightly in the same healthy person at the same sitting with the same pulse-rate; more notably in different healthy persons with the same pulse-rate; but corresponds pretty closely with the pulse-rate, shortening in general as the pulsations shorten.

To turn next to the clinical portion of the work, the author confirms the observation first made by Franck, that, contrary to the opinion generally current until within a few years, in free aortic regurgitation the retardation of the arterial on the cardiac pulse is shortened, the presphygmic interval being largely lost. The presence of this sign is positive evidence that regurgitation takes place throughout the diastole — is complete — provided only that active febrile movement is absent; the value of the sign is not impaired by the presence of concomitant valvular lesions.

Aortic aneurism, on the other hand, generally causes increased retardation of the arterial pulse.

So, likewise, in mitral regurgitation, there is delay in the arterial pulse, and the amount of the delay is proportional to the gravity of the lesion. If this ob-

servation proves to be correct, we are furnished with precious means for determining more precisely the significance and importance of many apex systolic murmurs.

We have thus all too briefly touched upon some of the striking features of this work, all of which is worthy of careful study. We have mentioned only some of the author's conclusions. For the steps leading to these conclusions we must refer those who are interested to the original. The style is simple and clear, and the work is one which does honor to American medicine. A good table of contents does not take the place of a good index. The publishers have done their share in a manner which silences criticism.

F. C. S.

A System of Gynecology by American Authors. Edited by MATTHEW D. MANN, M.D. Vol. I. Philadelphia: Lea Brothers & Co. 1887.

A more than usual interest has been felt in this work, the first volume of which has just appeared. More comprehensive systems of both medicine and surgery have from time to time been published and have attained marked success. This is, however, as far as we know, the first attempt to subdivide a special and limited branch of medical science among different authors. Until the present decade it would hardly have been possible to successfully carry out such a project, both from the lack of a sufficient number of competent men, and also on account of a too wide divergence of views of pathology and treatment. To-day, however, thanks to the impetus which has been given to the study in this country, of this branch of medicine by what may be called the New York School, emanating largely from the New York State Womans' Hospital, and to the extent and zeal with which the results of the marked progress made in gynecology in Europe have been appropriated and used, it has been possible to find a sufficient number of observers to write a thorough and well-rounded system of gynecology.

The inherent difficulty with an undertaking of this kind, is that with so full a subdivision of a necessarily limited field, the various parts will be so exhaustively treated, and approached from so many standpoints, that there will be a great deal of unnecessary repetition, and the thread of continuity will be broken, so that we shall have a series of monographs, instead of a connected and harmonious whole. That this difficulty has been wholly avoided in the work under consideration can hardly be affirmed. At the same time there is more unanimity in the treatment of the various divisions than might have been expected. The result is a book which fills its niche in the medical literature of the day, not as a work for students, but primarily as crystallizing and epitomizing the present status of gynecology, and secondarily as a book of reference for specialists and general practitioners. It is our opinion, however, that the latter class will find simpler and less bulky treatises answer their purpose better.

Its scope and size have admitted of very thorough treatment of each individual subject, and in the majority of instances foreign sources of information have been largely drawn upon, or duly noticed. It will not be possible in the limits of a short review to criticise each article. A list of the subjects of the various articles and their authors will, however, indicate the extent and character of the work.

The book opens with a "Historical Sketch of American Gynecology," by Dr. E. W. Jenks, in which the author has, with a great deal of pains collected numerous important and interesting facts with regard both to individual workers in this field, and to societies and institutions. The next article is one on "The Development of the Female Genitals," by Dr. H. J. Garrigues. Then follows a very thorough and painstaking article on "The Anatomy of the Female Pelvic Organs," by Dr. H. C. Coe. He very wisely includes the anatomy of the urinary tract and the rectum, both of which are so often complicated in affections of the genital organs proper. The subject of "Malformations of the Female Genitals," is clearly treated of by Dr. Garrigues, who has added to the value of this, as well as his former article on "Development," by appending a list of books referred to. The article on "Gynecological Diagnosis," by Dr. E. H. Grandin, is clear and comprehensive. Dr. E. C. Dudley has in his article on "General Consideration of Gynecological Surgery," grouped a great many important facts which are usually scattered through the ordinary textbooks, and the result is a valuable contribution.

"General Therapeutics," by Dr. A. J. C. Skene draws attention to the fact that much may be accomplished by general, as distinguished from local treatment, even in purely gynecological affections. Dr. A. D. Rockwell contributes an interesting article on "Electricity in Gynecology," showing how wide the application of this agent is, and giving simple rules for the use of the various currents. "Menstruation and its Disorders," by Dr. W. Gill Wylie, and "Sterility," by Dr. A. Reeves Jackson follow, the latter giving a very thorough *résumé* of the subject. "Diseases of the Vulva," is clearly and exhaustively treated of by Dr. M. D. Mann.

The important chapter on "Inflammatory Affections of the Uterus," by Dr. C. D. Palmer, embracing as it does such frequent and important diseases as acute and chronic endometritis, acute and chronic metritis, and ulceration and degenerations of the cervix, is well abreast of the times, both as regards pathology and treatment. Dr. T. A. Reamy has admirably described "Sub-involution of the Uterus and Vagina," and we are glad to see the latter half of the subject, namely, sub-involution of the vagina, accorded its proper recognition in gynecological literature as a factor in affections of the vagina following and incident to parturition. "Periuterine Inflammation," by Dr. R. B. Maury, and "Pelvic Hæmatocele and Hæmatoma," by Dr. E. Van de Warker, complete this vol ume.

On the whole, the editor and his co-workers may be congratulated on the degree of success they have attained in this important undertaking. The publishers have done their share, and the letter-press and binding are all that could be desired.

— Dr. S. P. Neklevitch, of Lozki, Russia, in the one hundred and ninth year of his age, and still in the active practice of his profession, dropped suddenly dead recently, while in the act of writing a prescription for a patient. If the physicians in Russia will persist in holding on to their patients so far into the second century of their existence, there is little wonder that so many medical students become Nihilists.

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HEMIANOPSIA AND THE CENTRES FOR VISION.

THE work of the last two years has done much to establish our knowledge as to the localization of the visual centres in the cerebral cortex. Von Graefe's original claim that these centres were in the occipital lobe, and that each centre presided over vision in one-half of each eye, was attacked from a clinical standpoint by Charcot, and from an experimental standpoint by Ferrier. Charcot[1] in 1875, asserted, from the study of cases of hysterical amblyopia, that there must be a double decussation of the fibres of the optic tract, so that the fibres from the retina of one eye should all meet in a common centre in the opposite hemisphere. The following year Ferrier[2] published his experiments upon the brains of monkeys and other animals, which seemed to show that this centre was situated in the angular gyrus, destruction of which produced blindness in the opposite eye. The removal of the occipital lobes, the angular gyri being intact, he found was without effect on the faculties of special sense. The views of Charcot and Ferrier, although they gained credence, in France and England, were not long after opposed by Munk,[3] who became convinced that the centre of vision was not in the angular gyrus, but in the occipital cortex. In the dog, where there is supposed to be a complete decussation of the optic tracts, destruction of the cortex over one side of the occipital lobe produces blindness in the opposite eye, but in the monkey and presumably in man, where there is only a semi-decussation, destruction produces hemianopsia. In both dog and monkey a partial destruction of the occipital cortex produces soul-blindness, and complete destruction on both sides produces absolute blindness.

Since that time German writers have generally accepted Munk's views, while careful study of disturbances of vision from the clinical and pathological stand-points has of late brought forward a mass of evidence in favor of them that is convincing. Darkschewitsch and Forel have not found any anatomical traces of a double decussation, while Seguin,[4] who has made an elaborate study of the literature of all cases where visual disturbances of central origin have been followed by an autopsy, has failed to find a case which proves Charcot's hypothesis of a double decussation of the optic tracts and of a centre for monocular vision,—in other words, he has failed to find a case of unilateral amblyopia from cerebral disease. His conclusions are so important that we give them in full.

"(1) Lesions in the mesal aspect of the temporal lobes or even in other basal districts of the hemispheres may give rise to hemianopsia indirectly by pressure upon the primary optic centres, the optic tract, or the chiasma.

"(2) Lesions of the corpus geniculatum laterale, the pulvinar, and the lateral caudal parts of the thalamus may cause hemianopsia, usually in association with hemianæsthesia and hemiplegia, or hemianæsthesia alone.

"(3) Lesion of the white substance of the occipital lobe in the caudal radiations of the internal capsule may cause hemianopsia alone or with hemianæsthesia.

"(4) Lesions of the supra-marginal gyrus, the angular gyrus, and the inferior parietal lobule, with the subjacent white substance, may cause hemianopsia with or without other symptoms, such as hemiplegia, loss of muscular sense, or word-deafness.

"(5) A lesion of greater extent, involving the speech centre, the motor convolutions, and the parts named above (under 4), due usually to embolism or thrombosis of the entire Sylvian artery, will, when on the left side, produce aphasia, alexia, hemianopsia, and hemiplegia.

"(6) Lesions of the occipital lobe, both cortex and subjacent white matter, produce blindness when bilateral, and hemianopsia when unilateral (agreeing with Exner).

"(7) A lesion of the cuneus and adjacent fifth temporal (of Ecker) on one side, will produce lateral hemianopsia of the opposite side."

From these conclusions he derives the following data for diagnosis:

"(1) Lateral hemianopsia is always due to an inter-cranial lesion on the opposite side from the dark fields.

"(2) Lateral hemianopsia with immobility of the pupils, optic neuritis, or optic atrophy, especially with symptoms of disease of the base of the brain, is due to a lesion of one optic tract, or of the primary optic centres of one side.

"(3) Lateral hemianopsia or geometric sector-like defects with hemianæsthesia and hemichorea or hemiataxia, without marked hemiplegia, is probably due to a lesion of the caudo-lateral part of the optic thalamus, or of the caudal division of the internal capsule.

"(4) Lateral hemianopsia with complete hemiplegia

[1] J. M. Charcot. Leçons sur les localisations 1876.
[2] D. Ferrier. The Functions of the Brain. pp. 164, 193. Ed. 1876.
[3] Verhandl. d. physiolog. Gesellschaft zu Berlin. 1876-1879. Die Functionen der Grosshirnrinde. 1877, 1880.

[4] E. C. Seguin. A Contribution to the Pathology of Hemianopsia of Cerebral Origin. Journal of Nervous and Mental Disease, Jan., 1886.

(becoming spastic later) and hemianæsthesia, is probably due to an extensive lesion of the internal capsule in the knee and caudal part.

"(5) Lateral hemianopsia with typical hemiplegia (spastic), aphasia (if on the right), and with little or no anæsthesia, points to a superficial lesion of the region of the middle cerebral artery.

"(6) Lateral hemianopsia with moderate loss of power in one half of the body, especially with impaired muscular sense, is probably due to a lesion of the inferior parietal lobule and angular gyrus, with the subjacent white substance, deep enough to involve the optic fasciculus.

"(7) Lateral hemianopsia alone, without motor or common sensory symptoms, is due to a lesion of the cuneus only, or of the cuneus and the gray matter immediately surrounding it on the mesal surface of the occipital lobe in the hemisphere opposite the dark fields.

"In the last five cases the pupils are normal and the ophthalmoscope rarely shows any changes."

Seguin, therefore, believes that the cuneus is the true visual centre. The anatomical relations of the optic fasciculus, lying immediately beneath the angular gyrus, show why lesions of the gyrus often cause disturbances of vision. Hun,[5] while holding to Seguin's views in the main, has sought to elaborate them, by claiming that the fibres from the upper quadrant of the retina terminate in the lower half of the cuneus, and the fibres from the lower quadrant in the adjacent part of the median occipito-temporal convolution.

Although Ferrier,[6] in the second edition of his work, has not taken account of the work of Seguin, and has taken every occasion to deride the work of Munk, he has, nevertheless, abandoned his former position. The visual centres are no longer placed by him solely in the angular gyrus, but in the gyrus and the occipital lobes combined. He believes, moreover, that the angular gyrus is the centre chiefly for vision in the opposite eye, while the occipital lobe is the centre for the opposite halves of the two eyes, and he denies that any case of hemianopsia from lesion of the occipital lobe alone has ever been reported — a manifest error in view of Seguin's work.

Since then our knowledge of the subject has been increased by the work of Wilbrand[7] and Reinhard.[8] Wilbrand believes that there are three layers of cells in the occipital cortex that form the visual centres, the outer layer being the centre for the color sense, the middle for the sense of space, and the inner, deeper layer for the perception of light. With this theory Reinhard, from a series of careful clinical and pathological observations agrees, and he adds many valuable conclusions. Lesions of the occipital lobes cause direct disturbances of vision, either soul-blindness or cortex-blindness, that is, absolute blindness; while lesions of the parietal lobes cause only indirect and temporary disturbances. If the lesion be superficial there is loss of perception of form and color, and soul-blindness, but if it be deep there is also loss of perception of light — total cortex-blindness. These two forms of blindness are seen chiefly in lesions of the convexity of the occipital lobe, and the point in it that corresponds most exactly to the macula lutea is in the neighborhood of the second occipital convolution.

As will be seen, Reinhard and Seguin place the visual centre in different parts of the occipital cortex, and Reinhard's centre is more nearly in accord with the centre discovered by Munx in the dog. Although the exact location of the centre in the occipital lobe may still be regarded as a matter of doubt, the weight of pathological evidence in man is in favor of Seguin's theory that it is in the cuneus, rather than in the second occipital, and the idea that the angular gyrus itself is in any way a centre for vision is now well-nigh abandoned except by Ferrier and his followers, and Charcot's old diagram of the double decussation of the optic track, which has so long done service in the text-books, must at last be discarded.

[5] H. Hun. A Clinical Study of Cerebral Localization. American Journal of the Medical Sciences, January, 1887.

[6] D. Ferrier. The Functions of the Brain, p. 270, et seq., 2d ed., 1886.

[7] H. Wilbrand. Hemianopsie. 1881. Die Seelenblindheit als Hirderscheinung u. s. w. 1887.

[8] C. Reinhard. Zur Frage der Hirnlocalisation mit besonderer Berücksichtigung der cerebralen Sehstörungen. Archiv. f. Psychiatrie, xvii, 717, 1886, xviii, 240, 449, 1887.

HOUSE-FLIES AS CARRIERS OF TUBERCULOUS CONTAGION.

SPILLMAN and Haushalter have recently reported to the Academy of Sciences (Paris, Session August 16th) their investigations as to the possibility of "contagion" (bacillus) of tuberculosis being carried by house-flies, and the results make it extremely probable that these pests of our dwelling-houses and hospital wards may have much to do with the propagation and dissemination of such contagion.

These investigations included repeated examinations made of the excrements and intestines of flies that had fed on the contents of the spit-cups of consumptive patients; in both, they found abundance of tubercle bacilli. They also found the same bacilli in the dried excrements of flies scraped from the windows and walls of rooms occupied by phthisical patients. The experimenters show how easily such germs may be disseminated by the dried excrements, or even by the dessicated and pulverulent remains of the bodies of these insects; how easily the air of respiration, or the food and drink, may be thus polluted and infected. It is known that the germs of the tubercle bacillus have great tenacity of life. These observations also indirectly strengthen the belief that the suitable soil is quite as essential to the development of tuberculosis as the suitable seed, otherwise the disease would inevitably be far more common even than it is.

Spillman and Haushalter, as a practical deduction from these investigations, insist on the importance of thorough disinfection of the spit-cups of tuberculous patients, by means of strong solutions of phenic acid or corrosive sublimate.

MEDICAL NOTES.

— Dr. St. John Roosa's work on the ear has been translated into German by Dr. Ludwig Weiss, and will be published early in the coming year, in Berlin, by Hirschwald, unter den Linden.

— A four-year-old boy, named Albert Kirkham, living at Lancaster, Eng., was severely bitten by a mad dog about the 1st of August last. He was taken at once to Paris, and treated by M. Pasteur. He returned to his home August 25th, and was taken, the next day, with premonitory symptoms of hydrophobia. He was removed to the Lancaster Infirmary, and died in great agony.

— A "Journal of Animal Morphology," edited by C. O. Whitman, Director of the Lake Laboratory, Milwaukee, Wis., has been established, devoted principally to embryological, anatomical, and histological subjects. Cordial promises of support have been received from many of the most eminent investigators in this department. This journal will be issued in the best style, with elaborate lithographic plates, and will be published by Ginn & Co.

— The women in the Sultan's seraglio at Constantinople have just been vaccinated, to the number of one hundred and fifty. The operations, reports one of our foreign contemporaries, took place in a large hall, under the superintendence of four gigantic eunuchs. The Italian surgeon to whom the task was confided was stationed in front of a huge screen, and the women were concealed behind it. A hole had been made in the centre of the screen, just large enough to allow an arm to pass through, and in this manner, the arms of various colors and sizes were presented to the operator in rapid succession. It was utterly impossible for the surgeon to get a glimpse of his patients; but, in order to guard against the chance of his being able to see through the screen, two eunuchs who stood by the operator threw a shawl over his face the instant an operation was concluded, and did not remove it till the next arm had been placed in position.

— The eminent Professor Nothnagel, we learn from our foreign exchanges, experienced an almost miraculous escape from death recently. He had been summoned to a consultation in Moscow, and, his professional mission over, he had entered a sleeping car on his homeward journey on the night of August 20th. He had barely settled down in bed when he had occasion to leave his *coupé*, and, after making his way along the passage, opened the wrong door and fell out upon the rails. Strange to say, he alighted without further injury than a slight bruise on one of the temples, and another on the foot. He found himself, bareheaded, and in the scantiest night gear, on a dark, rainy night, at a lonely spot — no one in the train, it seems, having been aware of his fall. With great difficulty and discomfort, and in the midst of a storm, he reached the house of the nearest guardian of the line, and was by him accompanied to the Iwanowka station; thence he got by train to Dünaburg, where the station-master gave up to him his clothes and travelling effects, as well as his pocket-book, containing more than ten thousand roubles, also left behind him in the carriage.

BOSTON.

— Dr. A. G. Griffin resigned his appointment of port physician, October 1st, to enter private practice. Dr. Griffin succeeded Dr. A. B. Heath as port physician in 1883, on the transfer of the latter gentleman to the superintendence of the Marcella Street Home. He had been assistant port physician for a year or more. Dr. Charles H. Cogswell has been promoted to fill the vacancy.

NEW YORK.

— The inauguration of the fine new buildings of the College of Physicians and Surgeons, the gifts of the Vanderbilt family, took place on the 29th of September, in the presence of a distinguished company. On this occasion Dr. John C. Dalton, President of the College, gave an historical sketch of the institution, and in speaking of its present prosperity paid a warm tribute to the generous benefactors by whose liberality such satisfactory accommodations have been provided for its work. Mr. Joseph H. Choate, of the Board of Trustees, was to have delivered the inaugural address, but as he was prevented from being present by illness in his family, his place was taken by Dr. William H. Draper, who also presented a number of memorial busts. The first of these was a fine bronze of the late William H. Vanderbilt, the gift of the Trustees and Faculty, for which Mr. Vanderbilt had been sitting on the day that he died. It is by the eminent sculptor, J. Q. A. Ward, and has been placed in the main hall at the entrance of the College building. The other busts were of the late Drs. Hosack and Mitchell, and of President John C. Dalton.

In the evening, in honor of the event, the alumni of the College had a banquet and jubilee celebration at Delmonico's. Dr. C. R. Agnew was toast-master, and after some remarks by the President, Dr. Dalton, Mr. Chauncy M. Depew responded for "Our Benefactors" in his usual happy vein. In the course of his speech he said: "No one could have attended the ceremonies this afternoon, heard the admirable addresses, looked into the faces of the alumni, and joined in the enthusiasm and applause, without breathing the university atmosphere and feeling like an alumnus of your college. Every man of middle age whose family physician is one of your graduates, has attested in crucial tests his devotion to the college. He has time and again shed his life-blood in serene confidence in your practitioners and their theories. He has time and again swallowed the most virulent of mineral and vegetable poisons to prove his loyalty, and his life has been at your service whenever you chose to take it. In England, this summer, I found that the medical theory of the hour was that all the ills that flesh is heir to come from eating and drink-

ing, and that the only panacea for perfect health is to give them up. In view of my public duties during the banquet season, I have rejected this advice, though obtained under the most expensive conditions from my London doctor. . . . When the College of Physicians and Surgeons reached 23d Street and halted, while the city swept on, you would have fallen behind, perhaps have been paralyzed, had not the Vanderbilt gift brought you abreast of the city's growth in wealth. For the first seventy-five years of our country's existence, our one need was money to develop mines, railroads, telegraphs, steam, electricity and inventions, and thus open up our unequalled natural resources. Fifty years ago there were not three ten-million-dollar men in the country, and not ten one-million-dollar men in New York. The man who had an income in excess of liberal living, for that reason alone had distinction, superiority, and social power; and the one ambition was for money. Now, rich men are so common that in itself wealth confers no power. The nation has more wealth than it needs for its development, and the millionaire is estimated by the use he makes of his money. Nobody asks him to divide his fortune, but everybody expects him to feel and act as if his possessions carried with them a trust. Their proper administration is his only opportunity to secure the good opinion of the community. If he simply schemes and hoards, he loses all that makes life worth the living — the respect of his neighbors here, the approval of his Maker hereafter. In the older States there are Colleges enough. The rich man who founds a new one to perpetuate his name, does no good and wastes his money. The endowment of colleges with age and traditions, in themselves a liberal education, helps us to obtain the best education and intellectual life. William H. Vanderbilt appreciated this, and selected for his benefaction the oldest medical college in the city."

Among the other speakers were Cornelius Vanderbilt; Daniel F. Gilman, President of Johns Hopkins University; the Rev. Dr. John Hall, Chancellor of the University of the City of New York; and Dr. William Pepper, Provost of the University of Pennsylvania. Letters of regret were read from Dr. Oliver Wendell Holmes; President Barnard, of Columbia College; President Dwight, of Yale University; Dr. Weir Mitchell, of Philadelphia; and Abram S. Hewitt, the Mayor of New York. In his letter, the Mayor said: "I am glad to say that the world more and more comes to the opinion that superfluous wealth is a public trust, and when this view is acted upon by those who have control of such wealth, we shall hear less of the sufferings of the poor, and of the antagonism which is believed to exist, but never can, between capital and labor."

On the same day as the inauguration exercises, the pavilion erected by Mrs. R. H. L. Townsend, at Bellevue Hospital, for the operative treatment of abdominal diseases in women, was formally presented to the city. The Rev. Henry S. Satterlee, in a few appropriate remarks, handed over the keys, in behalf of Mrs. Townsend, to the municipal authorities, represented by Commissioner Porter, of the Board of Charities and Correction, after which an informal reception and inspection of the new building followed. Six hundred patients of Bellevue Hospital were then treated to ice-cream and buns, in honor of the occasion.

— Dr. Smith, Health Officer of the Port, has announced that hereafter, the cargoes of vessels loaded with rags will be admitted without the delay and expense of disinfection, when they come with a clean bill of health from the sailing port. In order that they may escape this, it will be necessary that each invoice is accompanied by a certificate of the United States Consul at the sailing port that the rags were gathered in a country free from contagious or infectious disease.

— Of the eight cholera patients arriving in the *Alesia*, two have died at the hospital on Swinburne Island; and among the well passengers, who were transferred to Hoffman Island, there have been six cases and five deaths. Two new cases of the disease have developed.

— The position of Chief Inspector of Food and Chemical Analyses, on the Board of Health, has been abolished, and Dr. Cyrus Edson, who has held the post for a considerable time, has been made Chief Inspector of Contagious Diseases, in place of Dr. J. B. Taylor, resigned. Mr. Edward W. Martin, of the Columbia School of Mines, chemist to the department, is to take charge of the duties hitherto performed by Dr. Edson.

— Dr. Joseph D. Bryant, who has held the office of Surgeon-General of the State under both Governors, Cleveland and Hill, is one of the guests of President Cleveland on his Western and Southern trip.

Miscellany.

CURED PHARYNGEAL TUBERCULOSIS.

In a case of apparent tuberculosis of the posterior palatine folds, to which he was called in consultation several years ago, Dr. J. Solis-Cohen reports in the *Polyclinic*, September, 1887, that he advised thorough cleansing of the ulcers with a sponge, and energetic applications of powdered iodoform, but gave an unfavorable prognosis. To his surprise, the case was cured; but he has heretofore hesitated to record it, on the ground of possible mistaken diagnosis. It may be mentioned that there was not the slightest reason to suspect syphilis, that antisyphilitic constitutional treatment had failed to arrest the disease, and that there were all the objective and subjective indications deemed characteristic of primary tuberculosis.

Quite recently a similar case was brought to Dr. Cohen, in which emaciation to the extent of thirty pounds had ensued within a few weeks, as a result, chiefly, of difficulty in nourishment. The parts were cocainized, thoroughly scraped with a sharp spoon, and then energetically rubbed with a solution of lactic

acid, fifty per cent. This was repeated on several occasions with undiluted lactic acid until healthy granulation presented. Thorough cicatrization took place and the patient is for the time cured. Internally, one grain of iodoform and half a minim of creosote were administered in capsule thrice daily, after meals.

RESOLUTIONS ON THE LATE ALONZO CLARK, M.D.

At a meeting of the Board of Managers of the New York Society for the Relief of the Widows and Orphans of Medical Men, held September 21, 1887, Dr. Gouverneur M. Smith presiding, the death of Dr. Alonzo Clark, a late associate and benefactor having been announced, it was

Resolved, That this Board has heard with sincere sorrow of the death of Alonzo Clark, M.D., LL.D., and in view of his eminent service to the medical profession as scholar, instructor and counsellor, deems it fitting to place on record an expression of its appreciation of his eminent ability, singularly upright professional and private life, and of his zeal and ability as an investigator and lecturer.

Resolved, That the medical profession owes to him much of value in the advancement of medical science, while his ever loyal devotion to those needing his help and advice make his name one to be honored both by personal and professional friends.

Resolved, That, while there is in his death a sense of bereavement to those who knew him best, there is also the satisfaction of a long and honorable life, filled with results capable of accomplishing much of good to his fellowmen.

Resolved, That a copy of these Resolutions be sent to the family of Dr. Clark, and that they also be inscribed in full upon the minutes of this Board, and be published in the medical journals.

Willard Parker, M.D.,
John H. Hinton, M.D.,
Ellsworth Eliot, M.D., } *Committee.*

At a special meeting of the Board of Trustees of the College of Physicians and Surgeons, held on the twentieth day of September, 1887, the following resolutions were passed:

Whereas, We have been called upon to deplore the death of our late associate, Dr. Alonzo Clark, a former President of the College of Physicians and Surgeons, and for more than thirty years a distinguished professor in the institution; therefore,

Resolved, That we hereby record our eminent regard for the dignity and influence of Dr. Clark's personal character and our high appreciation of his attainments and distinction as a teacher.

Resolved, That the College of Physicians and Surgeons is largely indebted to Dr. Clark, as one of the most learned and skilful physicians of his time, for its high reputation as a school of medicine, and that it is both appropriate and gratifying for us, as trustees of the institution, to express our sense of the obligation. Also

Resolved, That we offer to the family of the deceased the assurance of our respectful sympathy in their deep affliction.

Resolved, That the foregoing resolutions be inscribed upon our minutes; that a copy of them signed by the President and Registrar, be transmitted to the family of the deceased; and that they be furnished for publication to such medical journals as the registrar may elect.

Willard Parker, M.D., *Secretary pro tem.*

Correspondence.

"AN M.D. IN NINE MONTHS." — REPLY.

Denver, Col., September 25, 1887.

Mr. Editor,— In the Journal of August 4, 1887, you kindly published a communication from me headed "An M.D. in Nine Months." I purposely left all names blank, but the Medical Department of the University of Vermont, through its instructor in surgery, has taken the case to itself, and thinks that I have cast "undeserved reflections upon them." Not wishing to be unjust, even by implication, and with a view of correcting any reflection, which may "seem" to be undeserved, that my original communication placed upon the Medical Department of the University of Vermont, I have to request of you an opportunity of publishing the following letter from my friend, Dr. Wheeler, which letter has been put by him in the shape in which he wishes it to appear in print, and is forwarded to you with his approval and consent.

Burlington, Vt., August 25, 1887.

Dear Dr. Fisk,— Your communication to the *Boston Medical and Surgical Journal*, of August 4th, entitled "An M.D. in Nine Months," has attracted my notice. A person who is not specially interested in medical colleges would not be likely to know which one you mean by the "University of ——," but your allusions are sufficiently definite to indicate to any one who is at all acquainted with the University of Vermont, that you refer to that institution. As I am one of its Board of Instructors, and as you charge us with being "lax in our requirements," and intimate that we are in the habit of grinding out doctors regardless of preparation or proficiency, I write in order to let you know all the facts in the case under consideration, some of which, I am sure, cannot have come to your knowledge. If you were a stranger to me I should not trouble you with this letter, but I know you, personally and professionally, too well to be willing that the University of Vermont should suffer undeservedly in your estimation, or that reflections upon its Medical Department which seems to me undeserved, should appear in print over your signature.

The Mr. X, to whom you refer, I take to be a gentleman by the name of ——, who came here from Denver. If this supposition is correct, either you are mistaken as to the length of time which he has spent in the study of medicine, or we were mistaken as to the genuineness of his credentials. He did come here, as you say, "armed with a card stating that he had attended *one* lecture course, and a certificate of having passed a satisfactory examination in materia medica and chemistry," but his armament also included a diploma which declared him qualified to practice pharmacy in the District of Columbia, and a certificate from Dr. ——, a reputable physician of Denver, stating that Mr. —— had "studied medicine *three full years*." I do not understand how a man who can present such credentials, can justly be said to have become an M.D. in nine months. Here is a qualified pharmacist (not a "drug clerk") who studies medicine three full years (not exactly the course pursued by the average "office boy,") and then attends lectures for nine months, at the end of which time he is allowed to go up for graduation, and on passing creditable examinations (as the gentleman in question did) takes his degree. This may be laxity as compared with a three years graded course, but there are few, if any, of the "two-courses-of-lectures-and-three-years-of-study" colleges (which still include the majority of our leading institutions), which do not allow graduates in pharmacy who have studied medicine three years, to come up to graduation at the end of their second course of lectures, even if both courses have been attended within the same twelvemonth. It is allowed here, as elsewhere, but such men do not often succeed in graduating. Three of them tried it here this year, but —— was the only one of the three who passed the examination.

The implication that the University of Vermont is the only college in which the second course of lectures could be taken within a twelvemonth of the first is erroneous. If a man with ——'s qualifications were to take his first course here, he could, in the following winter, take his second course and degree from any medical college which holds its regular session at that time of year and does not require a three years graded course.

With further reference to the matter of laxity, I would state that, of *seventy-nine* men who went up for graduation at the last Commencement of the Medical Department of the University of Vermont, only *fifty-three* succeeded in graduating. It does not strike me that a medical college which plucks *thirty-three per cent.* of its candidates for graduation can be very alarmingly "lax in its requirements." If there is another which can show as good a record, I should be glad to know it.

Sincerely yours, John B. Wheeler, M.D.
Instructor in Surgery, Medical Department Univ. of Vt.

Accepting Dr. Wheeler's statement, I will say that the certificate of Doctor —— and the additional certificate from the Board of Pharmacy, were sufficient evidence, so far as the University of Vermont was concerned, of Mr. ——'s preparatory training.

However, the laying so much emphasis upon them as qualifications for obtaining the degree of Doctor of Medicine, and slighting the fact, which Dr. Wheeler admits, of two courses of lectures taken in nine months, the second one being of only sixteen weeks duration, seems to me a little like letting the tail wag the dog.

Moreover, I am at a loss to understand what Dr. Wheeler means by saying that they allow "graduates in pharmacy, who have studied medicine three years, to come up for graduation at the end of their second course of lectures, even if both courses have been attended within the same twelvemonth," unless he also wishes it to be understood that a very liberal construction is to be placed upon the

"Requirements for Graduation," as they appear in their published "announcement."

Under that heading in their "Announcement" for 1887, I read:

"Candidates for the Degree of Doctor of Medicine, before presenting themselves for examination, must have attended two full courses of lectures of *twenty* weeks duration each, the latter at this College, and the time elapsing between the beginning of the first and the end of the second being at least *fifteen* months" (italics mine). Further on they state: "*Two full courses of lectures of at least twenty weeks each are absolutely required,*" and in a footnote they emphasize the fact that their lecture-course has been extended from sixteen to twenty weeks.

In spite of these published statements, the Faculty of the Medical Department of the University of Vermont have, in the case cited by Dr. Wheeler, graduated a man who attended both of his lecture-courses within the space of about nine months, the second course being only sixteen (not twenty) weeks in duration.

I would also remind Dr. Wheeler, in passing, that a man is not a "graduate in pharmacy," simply because he has a certificate from an Examining Board, of a State or District, entitling him to practice pharmacy; any more than he would be a "graduate in medicine" because he bore a certificate from a State Board of Medical Examiners.

Instead of laying so much stress on certificates, over which they have no control, it does seem as though this Faculty would have done better to have insisted upon the fulfilment of their "Requirements," over which they have absolute control.

It is no excuse that others do the same thing. The system is, I think, wrong, by whomsoever practised, and in all that I have written, my purpose has been simply to call attention to this process of quick parturition in medical education.

SAMUEL A. FISK, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 24, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	693	287	26.10	13.49	13.05	2.03	7.40
Philadelphia	993,801	358	136	15.84	11.76	2.36	6.72	4.20
Brooklyn	745,108	329	146	21.90	13.20	8.70	.90	9.30
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	136	55	22.20	14.80	14.80	2.22	2.22
Boston	400,000	192	80	18.72	16.12	6.24	2.60	3.12
New Orleans	242,750	134	35	32.08	11.73	2.76	.69	2.76
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	96	28	20.80	16.64	6.24	4.08	4.08
Pittsburgh	210,000	82	42	29.12	3.12	5 20	5.20	15.60
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	77	46	32.25	6.45	21.93	2.58	2.58
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	13	3	46.14	15.38	30.76	7.69	—
Charleston	60,145	45	14	22.22	16.66	11.11	2.22	4.44
Portland	40,000	13	2	7.69	30.72	—	—	7.69
Worcester	68,383	24	16	29.12	8.32	20.80	4.16	4.16
Lowell	64,051	38	16	21.04	13.15	13.15	7.89	—
Cambridge	59,660	21	11	38.08	9.52	23.80	9.52	—
Fall River	56,863	36	15	27.77	11.12	16.68	8.34	—
Lynn	45,861	14	4	7.14	28.56	7.14	—	—
Lawrence	38,825	9	5	—	33.33	—	—	—
Springfield	37,577	22	6	27.30	13.65	4.55	—	18.20
New Bedford	33,393	18	5	50.00	16.66	11.11	5.55	27.77
Somerville	29,992	8	6	37.50	12.50	12.50	—	—
Salem	28,084	14	3	28.56	14.28	7.14	7.14	14.28
Holyoke	27,894	7	4	28.56	28.56	28.56	—	—
Chelsea	25,709	8	1	12.50	25.00	—	—	—
Taunton	23,674	6	1	33.33	16.66	—	33.33	—
Haverhill	21,795	11	3	18.18	18.18	—	—	18.18
Gloucester	21,713	8	3	12.50	25.00	—	—	—
Brockton	20,783	8	0	12.50	—	—	—	12.50
Newton	19,759	7	1	42.84	14.28	—	28.56	—
Malden	16,407	3	0	—	—	—	—	—
Fitchburg	15,375	6	1	33.33	16.66	—	16.66	—
Waltham	14,609	4	1	—	—	—	—	—
Newburyport	13,716	6	3	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,336: under five years of age 979; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, and fevers) 564, consumption 321, lung diseases 176, diarrhœal diseases 230, diphtheria and croup 149, typhoid fever 78, malarial fever 44, scarlet fever 18, whooping-cough 17, cerebro-spinal meningitis 16, erysipelas five, puerperal fever four, measles three. From malarial fevers, New Orleans 25, New York seven, Brooklyn six, Baltimore and District of Columbia three each, Nashville, and Charleston one each. From cerebro-spinal meningitis, New York five, Milwaukee three, Philadelphia, Pittsburgh, Cambridge, Fall River, Springfield, Somerville, Chelsea and Gloucester one each. From scarlet fever, Boston six, New York five, Philadelphia and Brooklyn two each, Pittsburgh and Nashville one each. From whooping-cough, Boston six, New York three, Philadelphia two, Brooklyn, Baltimore, Pittsburgh, Milwaukee, Charleston and Somerville one each. From erysipelas, New York and District of Columbia two each, Brooklyn one. From puerperal fever, New York, District of Columbia, New Bedford and Newton one each. From measles, New York two, Boston one.

In the 28 greater towns of England and Wales, with an estimated population of 9,244,099, for the week ending September 10th, the death-rate was 18.8. Deaths reported 3,333: infants under one year of age 1,072; acute diseases of the respiratory organs (London) 160; diarrhœa 469, scarlet fever 95, whooping-cough 83, fever 57, measles 32, diphtheria 28, small-pox (Sheffield three, Bristol one) four.

The death-rates ranged from 12.2 in Derby to 29.1 in Preston; Birmingham 16.9; Blackburn 22.8; Bradford 24.2; Hull 23.6; Leeds 17.4; Leicester 19.0; Liverpool 21.0; London 16.7; Manchester 25.2; Nottingham 20.2; Sheffield 19.8; Sunderland 19.3.

In Edinburgh 18.8; Glasgow 19.4; Dublin 27.9.

The meteorological record for the week ending September 24, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Sept. 24, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ...18	30.40	57.0	68.0	47.0	65.0	60.0	74.0	66.0	N.W.	E.	W.	3	8	14	C.	C.	C.		
Monday, ..19	30.19	65.0	78.0	51.0	82.0	58.0	72.0	71.0	W.	W.	N.W.	12	19	11	C.	C.	C.		
Tuesday, ..20	30.30	56.0	65.0	51.0	63.0	58.0	63.0	61.0	N.W.	S.E.	W.	12	8	6	C.	C.	C.		
Wednes, ..21	30.04	64.0	76.0	48.0	72.0	50.0	82.0	68.0	W.	S.W.	S.W.	6	12	12	C.	H.	H.		
Thursday, 22	29.74	63.0	70.0	59.0		65.0	73.0	78.0	S.W.	W.	W.	15	8	8	R.	O.	O.		
Friday, ...23	29.87	52.0	60.0	44.0	63.0	55.0	67.0	62.0	N.	N.	N.	10	18	16	O.	O.	C.		
Saturday, .24	30.02	48.0	53.0	40.0	66.0	63.0	67.0	65.0	N.	N.E.	N.W.	14	18	11	C.	O.	F.		.05
Mean, the Week.	30.08		67.0	49.0				67.0										8	

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIESOF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 24, 1887, TO SEPTEMBER 30, 1887.

SMITH, A. K., lieutenant colonel and surgeon. Granted leave of absence for one month and fourteen days, to take effect upon his being relieved from duty at United States Military Academy. S. O. 223, A. G. O., September 24, 1887.

JOHNSON, R. W., captain and assistant surgeon. Granted leave of absence for twenty-one days, to be taken advantage of so that he will return to his station at latest by the middle of October, 1887. S. O. 204, Division of the Atlantic, September 23, 1887.

DUTZ, W. D., first lieutenant and assistant surgeon. Leave of absence extended one month. S. O. 223, A. G. O., September 24, 1887.

KNUDLER, WM. L., first lieutenant and assistant surgeon. Ordered to accompany Light Battery "F," 4th Artillery, from Fort Snelling, Minn., to the International Military Encampment at Chicago, Ill. S. O. 97, Department of Dakota, September 28, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 1, 1887.

MEANS, V. C. B., assistant surgeon. Ordered for examination preliminary to promotion.

DERR, E. Z., passed assistant surgeon. Detached from Navy Yard and to the "Nipsic."

ASHBRIDGE, RICHARD, passed assistant surgeon. Detached from Naval Academy, Annapolis, Md., and wait orders.

RUSSELL, A. H., passed assistant surgeon. Ordered to the Naval Academy, Annapolis, Md.

HERNDON, C. G., passed assistant surgeon. Detached from Naval Dispensary, Washington, D. C., and to the "Enterprise."

ARTHUR, GEORGE, passed assistant surgeon. Detached from the Museum of Hygiene, Washington, D. C., and to the Naval Dispensary.

GRIFFITHS, S. H., passed assistant surgeon. Ordered to the Museum of Hygiene, Washington, D. C.

SPEAR, J. C., medical inspector. Leave of absence granted until July 1, 1888, with permission to leave the United States.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, October 12th, at 7.45 o'clock. Papers: Dr. W. Everett Smith, "A Case of Poisoning from Arsenical Wall-paper." Dr. F. W. Stuart, "A Case of so-called 'Vicarious Menstruation.'" Members having specimens or other objects of interest to the profession, are requested to present them at this meeting.

ALBERT N. BLODGETT, M.D., *Secretary.*
F. I. KNIGHT, M.D., *Chairman.*

THE VERMONT STATE MEDICAL SOCIETY. — The Seventy-Fourth Annual Meeting of the Vermont State Medical Society will be held in the new Court-Room, State House, Montpelier, Vt., Thursday and Friday, October 13 and 14, 1887.

DEATHS.

Died in Lynn, Mass., September 28, 1887, John Ambrose McArthur, M.D., M.M.S.S., aged fifty-seven years.

Died in Hanover, Mass., September 29, 1887, John Odoway French, M.D., M.M.S.S.

RESOLUTIONS ON THE LATE DR. JOSEPH C. HUTCHINSON.

At a meeting of the Medical Staff of the Brooklyn Hospital, September 24, 1887, the following minute was adopted.

The long and active connection of our friend and associate, the late Dr. Jos. C. Hutchinson, with the Brooklyn Hospital, was characterized by earnest and unfaltering devotion to its interests. His preeminent professional skill, his large and varied experience, his conservative and accurate judgment, his genial manner and the inspiration of his native kindness and Christian manhood were ever ready for his professional associates as well as for those who sought the shelter of this institution for help, and were ever intent on all suggestions that served to keep the Brooklyn Hospital first and most liberal among the charitable institutions of the city.

Contributing as he did by his dignified presence and his many graceful accomplishments to the adornment and advantage of the enterprise, culture and benevolence of the city, the Brooklyn Hospital was nearer to his heart than any other interest, and to it were given his utmost care and the best of his gifts.

D. E. KISSANE, M.D., *President.*
ARTHUR R. PAINE, M.D., *Secretary.*

BOOKS AND PAMPHLETS RECEIVED.

Twenty-Third Report of the Trustees of the City Hospital, Boston, with Reports of the Superintendent and Professional Staff, Rules for Admissions and Discharges, Prospectus of Training-School for Nurses. 1886.

Insanity: its Classification, Diagnosis and Treatment. A Manual for Students and Practitioners of Medicine. By E. C. Spitzka, M.D., President of the New York Neurological Society, etc. New York: E. B. Treat. 1887.

Handbook of Gynæcological Operations. By Alban H. G. Doran, F.R.C.S., Surgeon to Out-Patients Samaritan Free Hospital for Women and Children, London, etc. With illustrations. Philadelphia: P. Blakiston, Son & Co. 1887.

Lessons in Gynecology. By Wm. Goodell, A.M., M.D., Professor of Clinical Gynecology to the University of Penn. Third Edition. Thoroughly revised and greatly enlarged with 112 illustrations. Philadelphia, Pa.: D. G. Brinton. 1887.

Notes embodying Recent Practice in the Sanitary Drainage of Buildings, with Memoranda on the Cost of Plumbing Work. By Wm. Paul Gerhard, C.E., Consulting Engineer for Sanitary Work, (New York City). New York: D. Van Nostrand. 1887.

Differential Diagnosis of the Diseases of the Skin for Students and Practitioners. By Condict W. Cutler, M.S., M.D., Assistant Attending Physician for Skin and Venereal Diseases, at the New York Hospital Out-door Department. New York: G. P. Putnam's Sons. 1887.

Oxygen as a Therapeutic Agent. Its Germicidal and Healing Qualities; its Consequent Adaptability to the Treatment of Consumption and Pulmonary and Throat Troubles generally; its Place in Surgery. With a Report of Twenty Cases treated in the Practice of Drs. Rothwell. By P. D. Rothwell, M.D., Denver, Col. Denver, Col.: W. W. Rea. 1887. (Reprint.)

Original Articles.

INJURIES OF AND OPERATIONS UPON THE KIDNEY.[1]

BY EDWARD O. OTIS, M.D.

THE heart, lungs and kidney have been aptly called the three legs of the human tripod. Destroy or impair the integrity of any one of these three, and the vessel totters or is broken. Consequently, whatever interferes with the proper physiological function of these organs, be it disease or injury, must always be of the highest interest to the practitioner. When this interference comes from an injury or can be remedied by surgical device, the interest and attention of the surgeon is at once engaged. Of these three organs, up to the present time, with one or two exceptions in favor of the lungs, surgery has had only to do with the kidneys, and that of comparatively recent date.

I propose first to speak of injuries of the kidney, and secondly of operations upon it.

The kidneys, although so snugly and deeply ensconced in the body, are in that part of it which is naturally exposed to many dangers. Vehicles, car buffers and the like are about the right height to strike that portion of the body containing these organs, and their injury is no uncommon thing. Falls, compression between two unyielding bodies, blows, a falling mass, are generally the causes which produce the accident. Muscular strain may do it, and I have seen a comparatively light blow from a boxing glove produce one of the most characteristic signs of the injury, hæmaturia. The injury may be slight or severe; a simple contusion or bruise, or a multiple laceration. It may be subcutaneous, or communicating with an open wound. The peritoneum may or may not be involved. All parts of the kidney have been torn and lacerated; the most dangerous portion to be injured is the pelvis with the renal vessels.

The diagnosis of a subparietal injury can generally be pretty surely determined, but not always, as one of the cases which will be cited later testifies. We have as signs, the nature and circumstances of the accident; pain, more or less intense over the injured kidney; hæmaturia generally; retention of urine and retracted testicle sometimes; a tumor in the loin, dull on percussion, rarely occurs; and if the injury is a severe one there are the ordinary signs of shock and collapse. Of course there are many variations and combinations of these symptoms, and, as I have said, all or nearly all, may be absent. The prognosis, of course, depends upon the severity of the accident, and the amount of injury the kidney has sustained. If a simple contusion or bruise, as illustrated by the first case I shall presently give, the symptoms soon disappear and the patient is well. In lacerations, where the kidney is ruptured or crushed, the case is different, but even here authorities agree with Mr. Harrison, who says that "lacerations of the kidney is a lesion more frequently recovered from than any corresponding one of an internal organ."

Maas[2] gives an interesting series of experiments upon animals where the kidney was artificially ruptured or incised, and the number of recoveries are noteworthy.

By incision into the kidney no fatal result ensued. In certain cases where he severely ruptured the kidney, atrophy of the injured organ followed, and the remaining kidney performed the functions of both. In other cases cicatrization without subsequent symptoms followed: and in still others hydronephrosis and abscess resulted with necrosis of a great part of the kidney substance. In these experiments the most prominent symptom of rupture was hæmaturia. Maas[3] has also collected seventy-one cases of kidney injury, of which thirty-seven recovered and thirty-four succumbed, but of these thirty-four he says in only sixteen is the injury itself to be looked upon as sufficient cause of death. Bloch[4] records forty cases with twenty-three deaths; and Simon[5] ten, with seven deaths. I have collected twenty-seven cases (1879 to 1887) with eleven recoveries and sixteen deaths. Adding these twenty-seven cases to Maas' seventy-one [Maas probably included the cases of Bloch and Simon in his number,] we have ninety-eight cases with fifty deaths or a mortality of 51.02 per cent. (for subcutaneous injuries.)

A fatal result in an injury of the kidney may be caused by hæmorrhage, either primary or secondary, peritonitis, suppuration, abscess, and concomitant lesions of other organs. Maas in his cases found primary hæmorrhage as a cause of death relatively seldom. The treatment of the more severe cases — laceration and rupture — demand particularly our attention, for the question of surgical interference may come up. The cases of little gravity get well of themselves, with rest and expectant treatment.

Knowing, then, that the crush, blow, or fall over the kidney was a severe one; having profuse hæmaturia, intense pain in the loins, symptoms of collapse and the general signs of severe hæmorrhage; we can feel sure that we have to do with a ruptured or lacerated kidney, which may involve both the renal vessels and the peritoneum. What is to be done? The first thing, obviously, is to arrest the hæmorrhage, and without operative interference only indirect means can be used to accomplish this. Of the first importance is perfect and prolonged rest in bed; a disregard of this cardinal principle was followed with disastrous results in one of the cases reported, as you will see. The best external application is an ice-bag. Morphia subcutaneously or opium per anum must be given to alleviate pain and restlessness. Then comes the internal administration of astringents, and I should doubt if any of them do much good. They are ergot, tannin, gallic acid, acetate of lead, iron, matico, hydrastis, hamamelis, rhus aromatica, and others. The food should be liquid like milk and ice, and no stimulants should be given. Intestinal and gastric activity are to be reduced to a minimum. Catheterization may and probably will be required, and if the bladder is filled with clots, Mr. Morris suggests breaking them up with a lithotrite. The plan suggested by Dr. F. N. Otis[6] for dissolving clots in the bladder, by injecting into it a pepsin solution (a drachm of pepsin to two or three ounces of water), seems to me to be worthy of trial. Cystotomy may have to be performed to give exit to

[1] Read before the Surgical Section of the Suffolk District Medical Society, May 3, 1887.

[2] Klinische und Experimentelle Untersuchungen uber die Subcutanen Quetschungen und Zerreisungen der Nieren, Deutsche Zeitschrift für Chirurgie, Vol. X. 1878.

[3] Loc. cit.

[4] Bloch, De la contres du rein, Thèse, Paris, 1873.

[5] Simon, Chirurgie der Nieren, II. Theil, Stuttgart, 1876.

[6] "Genito-Urinary Diseases and Syphilis," by F. N. Otis, M.D., New York, 1883, p. 466.

the clots, as was done in a case of Mr. Rawdon's, reported by Mr. Morris.[7]

If, in spite of these means, the hæmaturia continues, and an increasing anæmia and collapse, accompanied perhaps with dulness and swelling in the loin, indicates that the hæmorrhage is still active, and a probability that the pelvis of the kidney has been involved, the only resource left is surgical interference. Simon's[8] points, which seem sufficient for an operation, are *strong collapse* and *swelling* in the region of the injured kidney.

This should be either an abdominal or lumbar incision; the latter is the operation to be at first thought of and done, and only in case one fails in this way to reach and tie the source of the hæmorrhage, or there are clots in the peritoneal cavity — the peritoneum having been torn — is abdominal section to be considered. A previous lumbar incision in no way prejudices a later abdominal one, so far as I can see. Moreover, the operation should be done, as Mr. Reeves[9] says, "before the patient is too weakened by hæmorrhage, and before septic phenomena have been allowed to develop."

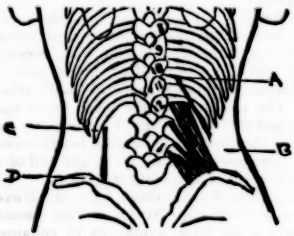


FIG. 1.

For injuries, the vertical incision (Fig. 1, C D), seems the most natural one, over the swelling if it exists, if not, from just below the twelfth rib to the crest of the ilium, along the external border of the quadratus lumborum muscle, or about three inches from the spine. If more room is desired, a second incision can be made from near the top of the vertical one outwards, about one-half an inch below the twelfth rib;

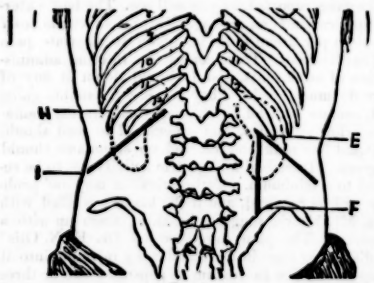


FIG. 2.

the whole incision will then be in the form of an inverted L (Fig. 2, E F). The ribs can also be strongly raised by retraction. The oblique incision, as in nephrotomy, is also equally good. The kidney, or what remains of it, having been reached, all clots, effused blood, and debris are to be removed, and the cavity thoroughly cleaned with an antiseptic fluid. The source of hæmorrhage is to be sought for and ligated. In cases of such serious gravity as to call for an operation, the pelvis of the kidney will probably be broken into and the renal vessels injured. These with the ureter should be ligated and the renal remnants removed; a nephrectomy done, which procedure receives the sanction of both Mr. Reeves[10] and Mr. Morris.[11] "Nephrectomy will in future," says the latter, "be probably adopted as giving the best prospect for recovery." That it has been done many times up to the present date, for wounds and lacerations, I find no evidence, and can only refer to five cases cited by Dr. Weir[12] in which it was done, and successfully so in three.

If the hæmorrhage has been stayed, an immediate operation, at least, is not indicated, but there are other dangers to be guarded against. Peritonitis is one, which, if it occurs, is to be treated in the usual way; or, knowing that it is of traumatic origin, abdominal section may properly be thought of. Extravasation, suppuration, and pyonephrosis are other late dangers, indicated by general constitutional symptoms, fever, rigors, etc., and often dulness and a tumor in the loin. All of these three last conditions call for lumbar incision and drainage. "If the kidney, by suppuration, is structurally destroyed, it is to be removed."[13] If the symptoms do not give clear evidence of fluid beneath, aspiration can first be resorted to. Septic decomposition in the bladder is still another danger, and, for its relief, washing out the organ with antiseptic solutions is required, or even cystotomy.

Compound fractures or injuries of the kidney are caused by firearms and penetrating instruments. They are rare in civil life. There are two symptoms which, if present, are pathognomonic of a wound of the kidney — hæmaturia and escape of urine from the wound. Of course, there are cases in which the evidences of an injury of the kidney are not clear, and only accumulate later.

The dangers are the same as in subparietal injuries, and are to be combatted in the same way. An operation may be demanded, as in the other class of cases, and under similar circumstances. In the seventy-eight cases reported in the medical and surgical history of the War, twenty-six recovered. Nephrectomy or nephrotomy was not done in any case; probably more cases would have been saved if they had been. "If life be threatened by hæmorrhage or suppuration, the kidney ought to be removed by lumbar nephrectomy."[14] The external wound should be treated on general antiseptic principles.

I am aware that I have only given, in relation to injuries of the kidney, about what are the opinions and experience of all modern surgeons. The one point I wish to emphasize is the recourse to an operation — lumbar or abdominal incision, with nephrotomy or nephrectomy, and ligature of the ruptured vessels, when other means fail to control the hæmorrhage — and the doing of this just as soon as it is evident that

[7] Surgical Diseases of the Kidney, Henry Morris, p. 144.
[8] Loc. Cit.
[9] The Lancet, Oct. 4, 1884.
[10] Loc. cit.
[11] Encyclopædia of Surgery, Vol. V. p. 879.
[12] New York Medical Journal, Dec. 27, 1884, Vol. xl, p. 721.
[13] Injuries of the Kidney. R. Clement Lucas. Lancet, I, 1884.
[14] Morris. Loc. cit.

the bleeding is jeopardizing the life of the patient. Also, if the danger from primary hæmorrhage is past, a later operation of the same kind for suppuration, extravasation, or pyonephrosis.

In concluding this part of my paper, I can, perhaps, make it more vivid by giving a few illustrative cases from among those I have collected.

ILLUSTRATIVE CASES.

Case I. My own. A student was thrown violently down in a game of foot-ball. Severe pain in the lumbar region, over the kidney, and hæmaturia followed; also some difficulty in micturition. Rest in bed, poultice over the loin, and ergotin were prescribed. The hæmaturia ceased in one or two days. He grew rapidly better, and in a week or ten days was up and about. Several weeks after the accident, he reported himself as feeling perfectly well. This illustrates one of the lighter forms of injury, and might, perhaps, be called a bruise of the kidney.

Case II. Reported by W. Macfie Campbell.[15] Supposed rupture of the kidney. A boy of fourteen years, in leaping over a hedge, struck first on his feet, and then fell and rolled over on his left side. He picked himself up, and walked some distance. There followed shock, intense pain over the left kidney, and more or less profuse hæmaturia, which disappeared in a few days. Later, some rise of temperature for a few days. The treatment was perfect rest, liquid diet, gallic acid, and opium, with ice over the injured kidney. The ice was the only thing which relieved the intense pain, which returned as soon as it was removed. In a microscopic examination of the urine, blood, casts and traces of broken tubules were found.

The pain disappeared in two days, and he was sitting up in seven days. He became and remained entirely well. The author bases his diagnosis of rupture upon the immediate violence of the symptoms, the amount of blood lost, and the presence of blood casts and broken tubules. He further adds that "the differential diagnosis between rupture and contusion is by no means easy, nor for treatment is it essential."

Case III. Reported by W. Y. Eales.[16] Crush and rupture of the kidney. The accident was caused by a mass of coal falling upon the patient. The injury was followed by collapse, intense pain in the right lumbar region on deep breath, and hæmaturia. Death occurred sixty hours after the accident, from anæmia and shock. On autopsy, a large quantity of blood was found in the peritoneal cavity, and, behind the right kidney, was an enormous amount of blood-clots and effused blood. The kidney itself was, in its upper half, smashed to a pulp, and, in its lower half, was a small, deep, jagged wound. No wound of the trunk artery or vein was detected. The ureter was blocked by blood-clots.

One thinks of an operation in a case like this as soon as the hæmorrhage was seen to be alarming, but, in the light of the autopsy, only an abdominal section would probably have offered any chance of success.

Case IV. Reported by W. Jas. Spence.[17] Rupture of the kidney; death on the forty-seventh day. The patient was struck in the right flank by the revolving handle of a travelling crane, and knocked down a cutting some sixteen or seventeen feet deep. Collapse ensued, with pain and hæmaturia. An ice-bag was applied to the loin, and opium given. The hæmaturia continued more or less profusely for eight days, when it subsided under large doses of iron. On the nineteenth and twentieth days after the accident, the patient sat up for two or three hours each day. On the twenty-first day hæmaturia recurred, and, with two days intermission, continued until he died of exhaustion, forty-seven days after the accident. Lead, ergot, turpentine, and other remedies were tried without avail.

At the autopsy, a rent was found in the medullary substance at the upper part of the right kidney. This rent was filled with a decolorized and partly-organized clot. The pelvis of the kidney, the ureter, and bladder, were distended with blood-clots.

Here, again, was not an operation indicated when the secondary hæmorrhage occurred, and all other means to stay it had failed? Incidentally, the case shows the disastrous effect of movement, for all was going well when the patient sat up.

Case V. Reported by T. W. Stokes.[18] The patient was crushed between the buffers of two cars, and was supposed to have sustained a laceration of the liver, no symptoms pointing to an injury of any other organ. The urine was drawn, and found clear. Pain not very intense, and chiefly confined to the region of the liver. Death occurred four days after the accident. At the autopsy, besides extensive injury to the liver, the right kidney was found to be extensively torn, the lacerations running transversely, and extending almost to the sinus, but not in it, which, the author thinks, accounts for the absence of hæmaturia. The kidney tear was completely sealed up and in process of healing, its edges being glued together by lymph. The immediate cause of death was secondary hæmorrhage, probably from one of the lacerations of the liver.

The case is interesting, as showing the process of repair in a badly-lacerated kidney, and the absence of almost all the signs of a rupture of that organ. The author's reason for the absence of hæmaturia was probably the correct one.

Case VI. Reported by M. Maunoury.[19] A carter was crushed between his cart and a post. The day after the accident, he noticed that his urine was bloody, but he paid no attention to it, and in a few days resumed his work. Hæmaturia, however, continued, and finally retention followed. He applied to a pharmacist, who catheterized him. Later, fever appeared, and other serious symptoms, and he entered a hospital. Here evidences of extensive suppuration were found, and a tumor detected in the left lumbar region. Aspiration showing pus, a lumbar incision was made, giving exit to almost a quart of pus, mixed with fragments of renal tissue, the total mass of fragments weighing nearly two ounces. The vast cavity was washed out, and an antiseptic dressing applied. Healing was complete in about a month and a half.

It is marvellous that, with so serious a laceration as this evidently was, the symptoms, at the first, should have been of so little intensity.

OPERATIONS UPON THE KIDNEY.

Two cases occurring in my own practice, the one fatal, and the other full of suffering, have indelibly impressed upon my mind the importance of surgical interference in certain affections of the kidney, notably calculus and suppurative lesions, as affording the only

[15] Liverpool Medico-Chirurgical Journal, 1884, Vol. IV, p. 425.
[16] Lancet, March 13, 1886.
[17] Medical Times and Gazette, 1865, I, p. 9.
[18] Dublin Journal of Medical Sciences, 1880, Vol. LXIX, p. 61.
[19] Revue de Chirurgie (Paris), 1885, V, p. 418.

deliverance in otherwise hopeless cases. The one case was that of a young married man, who, for years, suffered from symptoms of renal calculus, enduring the most excruciating and convulsive pain of renal colic, and for which he vacillated between opium-eating and rum-drinking, becoming a curse to himself and his unhappy family. The other case [20] was also that of a young man just beginning a professional career, from which he had much to hope, afflicted with a suppurative affection of one kidney. After dragging out a wretched existence for two years, he died of pyæmia, and the autopsy revealed an enormously dilated, pus-secreting sac in the place of the kidney. Both of these lives, I believe, might have been restored to usefulness and comparative health through the intervention of surgery.

To Simon, of Heidelberg, and Morris, of London, the surgical profession is indebted for firmly establishing the operations of nephro-lithotomy and nephrectomy, nephro-lithotomy having been first performed by the latter in 1880, and nephrectomy by the former in 1869.

Besides these two operations, with which the remainder of this paper will be chiefly concerned, we have nephrotomy, nephrorraphy, paracentesis, and what Mr. Lucas [21] makes a distinct operation, exploration of the kidney, which is but a part of nephro-lithotomy.

Within the last few years, recorded cases of operations upon the kidney have been rapidly multiplying, and the literature upon the subject is becoming voluminous. Gross's [22] paper, based upon an analysis of nearly four hundred and fifty cases of all kinds, embracing all he could collect up to May 15, 1885, is well known to you.

I have collected, of cases recorded since that date, sixty-eight operations of all kinds, as follows: [23]

Nephrectomies, 28 with 6 deaths, 21.42%. Of these 18 were lumbar with 2 deaths, 11.11%; and 8 abdominal, with 4 deaths, 50%; the incision in two cases was unknown. Nephrotomies, 13 with 4 deaths, 30.77%. Nephro-lithotomies, 21 with 2 deaths, 9.52%. Exploration, 2 with no deaths. Nephrorraphy, 4 with no deaths.

Of these sixty-eight cases, thirty-two were for calculus, in which nephrotomy was done nine times, with one death; nephrectomy twice, with one death; and nephro-lithotomy twenty-one times, with two deaths. I have added these cases to Dr. Gross's, and give a synopsis of the result.

The indications and technique of nephro-lithotomy and nephrectomy have been carefully discussed by surgeons of all countries, and, at the present time, the tendency is toward a greater precision in diagnosis, and earlier surgical interference.

With regard to the indications for nephrectomy, for a broad rule, Simon's [24] is a good one: that when a reasonable certainty exists that one kidney is healthy, and the other is the seat of advanced and irremediable disease, its extirpation is justifiable.

[20] Boston Medical and Surgical Journal, March 27, 1884.
[21] British Medical Journal, September 29, 1883.
[22] American Journal Medical Sciences, July, 1885.
[23] Operators: Knaggs, Dickinson, and Pouse, Polaillon, Colquhoun, Croft, Hill, Bogue, Hatch, Thornton, Elder, Lucas-Champonniere, Nicholson, Whitehead, Owen, Clarke, Donkin, C. Mac Namara, Shepherd, Watson, Briddon, Park, Wright, Heilbrun, Edis, Walsham, Imlach, Browne, Wright, Clark, Paul, Lauenstein, Franks, Page, Lloyd, Cheesman, Agnew, Gross, Lange, Edel, Trélet, Sadler, Howard, Paoli, Orlowski, Lucas, Ferreri, Cullingsworth, Wasdin, Pallaster, Pickering, Morris.
[24] Chirurgie der Nieren.

SYNOPSIS OF GROSS'S CASES WITH SIXTY-EIGHT ADDITIONAL ONES ADDED THERETO, COLLECTED SINCE MAY 15TH, 1885, THE DATE OF HIS PAPER.

	No. of cases	Recovered	Died	Per cent. died
Nephrectomies both lumbar and abdominal for all causes	261	153	110	42.14
Nephro-lithotomy	42	38	4	9.52
Nephrotomy (lumbar)	116	89	27	23.28
Nephorraphy	22	21	1	4.54
Exploration	31	31	0	0
SUPPURATIVE LESIONS FROM ALL CAUSES.				
Nephrectomy	90	55	35	38.88
Nephrotomy	104	79	25	24.04
INCISIONS.				
Lumbar	129	86	43	33.33
Abdominal	128	63	65	50.78

Nephrectomy, says Wagner,[25] is urgently indicated in cases in which the renal lesion directly threatens life. As, for instance, in cases of severe injury of the organ, and malignant disease. In suppurative affections, if the disease be progressive, has caused emaciation and hectic fever, and is likely to be associated with general amyloid degeneration. Braun [26] adds cases of fistula of the ureter which cannot be healed, and injuries of the kidney, where an open wound permits a clear recognition of the injury. He finds, further, that nephrectomy for malignant tumors give bad results, while, on the contrary, the results from this operation for pyelitis and pyelo-nephrosis are remarkably good, he having obtained twenty-three complete recoveries from thirty-eight operations. In hydro-nephrosis, he is in doubt whether a fistula or extirpation is the better procedure. Gross, and many others, hold that nephrectomy should not be resorted to as a primary operation in suppurative lesions, but only after a previous nephrotomy. No hard and fast rule can be laid down, it seems to me, but the surgeon must be governed in his decision very much by the condition of the case and patient. One thing is certain, that nephrectomy is being more frequently done every year; and Tillaux's [27] opinion, that it is an operation which ought to be reserved for very exceptional cases, is receiving a less rigid interpretation.

It is, of course, a very serious matter to leave the patient with only one kidney, ignorant as the operator is of the exact condition of that one, or, in fact, if it exists, though this last risk is a small one, for out of eight thousand and sixty-six post-mortem cases, according to Mr. Morris, there were but two instances of congenital absence, and one only of congenital atrophy of the kidney. That a single kidney is capable of eliminating sufficient urine for the maintenance of health, is sufficiently well established: that it so increases its functional powers as to perform the full amount of work formerly performed by the two kidneys, seems to me to be extremely doubtful. At

[25] P. Wagner. Casuistische Beiträge zur Nierenchirurgie. Deutsche Ztschr. f. Chir. (Leipzig), 1886, XXIV, 505-592.
[26] Ueber die Indikationen zur. Nephrectomie. Centralblatt für Chirurgie, No. 14, 1886.
[27] Anatomie Topographique, Troisième édition, p. 700.

all events, the man with one kidney is very like the showman with his head in the lion's mouth, who calls out: "Is he wagging his tail? for, if so, it is all over with me." If this one kidney is attacked with disease, it is likely to be all over with him.

(To be continued.)

THE THERAPEUTIC VALUE OF MALT.

BY CHARLES W. TOWNSEND, M.D.

ONE of the fashionable remedies of the present day is the extract of malt in the form of one of its numerous preparations. Its valuable properties are generally considered to be: first, the concentrated nutriment it contains; second, the digestive power it possesses owing to the presence of diastase. From its first property it is indicated in cases of malnutrition where a concentrated food is desired, and one that is in a condition to be directly absorbed. From its second property it would seem to be indicated in cases of starchy dyspepsia, where some artificial ferment is needed to aid or supply the place of the natural ones in digesting starch. That the diastase found in malt and in good malt extracts is capable of digesting starch at the temperature of the body in a test-tube is a fact easily confirmed. Will malt do this in the alimentary canal? If not, malt given after a meal, as is usually prescribed, is of value only from its contained nutriment and its diastatic power is simply wasted. In the test-tube experiment malt and starch are brought in contact in a watery medium and are raised to the temperature of the body, but in the stomach the malt would have to act on the starch in the presence not only of the other solid and fluid ingesta and the products of their digestion and decomposition, but also in the presence of the gastric juice. Now it may be that the diastase is either destroyed or its action so hindered by the acids produced by fermentation from the ingesta, or by the hydrochloric acid of the gastric juice, or by that and pepsin combined that it is unable to act on the starch. To determine this point the following experiments were performed: First, the effect of various percentages of hydrochloric acid on the diastatic power of malt. Second, the effect of pepsin alone and of pepsin combined with hydro-chloric acid on this power. Third, the diastatic power of malt in the stomach of the living animal.

To test the action of malt in the presence of hydrochloric acid, a water bath was used, kept at a temperature between 99° and 104° F. by an alcohol lamp. In each experiment one ounce of clear starch paste, made by boiling fifteen grains of starch in one ounce of water, was used, and thirty minims of a liquid extract of malt. This proportion of malt to starch was larger than was really needed to convert the starch to sugar, but saved time and made the results of the experiments more satisfactory. Chemically pure hydrochloric acid was used, and the percentages calculated are those of the anhydrous acid. The paste, paste and water or paste and acid solution were first put in the vessel in the water-bath, the malt was then added, and the solution tested every few minutes by placing a drop in one of a series of test-tubes containing a solution of tincture of iodine, in the proportion of two drops to the ounce of water. The experiments were continued from twenty-five to forty-five minutes, and most of them were verified by repetition.

No.	Paste	Water	Percentage of HCl.	Malt	Result
1	1 oz.	....	....	30 m.	Paste liquefied in two minutes, all changed to sugar in ten minutes
2	1 oz.	6 oz.	....	30 m.	In one minute starch mostly changed to sugar as shown by purple tint with iodine; all changed to sugar in seven minutes
3	1 oz.	....	.2 or 1-5 per cent.	30 m.	Starch as abundant at end of twenty-fifth minute as end of first minute
4	1 oz.	6 oz.	.03, about 1-33	30 m.	Starch as abundant at end of twenty-fifth minute as end of first minute
5	1 oz.	6 oz.	.015, about 1-66	30 m	Experiments continued for forty-five minutes and starch still found as abundantly as at first
6	1 oz.	6 oz.	.0111, about 1-90	30 m.	Experiments continued for forty-five minutes and starch still found as abundantly as at first
7	1 oz.	6 oz.	.00740, about 1-135	30 m.	In four minutes starch partly changed as shown by purple tint with iodine but not till thirty minutes was it all changed to sugar
8	1 oz.	6 oz.	.00565, about 1-177	30 m.	The purple tint with iodine showed itself in two minutes; starch all changed to sugar in thirty minutes
9	1 oz.	6 oz.	.00370, about 1-270	30 m.	Changed to purple with iodine in one minute; all changed to sugar in seven minutes; results same as that of experiment two

The gastric juice, according to Foster,[1] contains two per cent of free hydro-chloric acid. The contents of the stomach after a meal has, of course, a less acidity than this from the dilution of the juice with food and drink, but, as reference to the table will show, .011 per cent. of free acid was sufficient to stop the diastatic power of malt entirely; .00565 per cent. of free acid checked the action of the malt to a slight extent, but .00370 per cent., an extreme dilution, had no effect whatever. Now .0111 per cent., the minimum percentage according to these experiments necessary to entirely check the action of the diastase of malt, would be about the percentage of acid in a stomach containing one ounce of gastric juice and nineteen ounces of other fluid, and it is probable that the percentage of acid in the stomach is usually much greater. The following calculations show this to be the case: The amount of gastric juice secreted in twenty-four hours, according to Bidder and Schmidt,[2] is 6,400 grammes or about fourteen pounds, and even supposing that it is secreted equally at all times, whether food is in the stomach or not, this would give one-and-one-sixth pounds secreted during the two hours of stomach digestion following a meal. Flint[3] calculates that as two ounces of gastric juice have been found to be secreted in response to stimulation in ten minutes, twenty-four ounces, or a pound and a half, avoirdupois, are secreted in the two hours of gastric digestion. Now, in order to reduce the normal .2 per cent. strength of hydrochloric acid in the one-and-one-fourth pounds, we will say, of gastric juice to a .011 per cent. solution, the minimum amount of acid needed to stop entirely the action of diastase, it would be necessary to ingest about twenty-two pounds of fluid at that meal. Of course, this amount of fluid is not taken at one meal, at least by invalids for whom malt

[1] Text-book of Physiology, New York, 1880, p. 246.
[2] A. Flint, Jr. Physiology of Man, Vol. II.
[3] Ibid.

is intended, and, therefore, the percentage of acid in the contents of the stomach must be much greater than the minimum percentage needed to check the action of diastase. In fact, the amount of acid needed for this purpose is so small that great diminution in the amount and acidity of the gastric juice would be possible, and still suffice to render the diastase worthless.

But, it may be asked, will not the malt be able to act on the starch when it has passed from the acid stomach to the alkaline duodenum? To determine this point and to imitate this process in the living animal, experiment No. 6 was repeated, but at the end of thirty minutes sufficient hydrate of potash was added to neutralize the hydrochloric acid. At the end of twenty-five minutes after neutralization a deep blue percipitate was still caused by the addition of a drop of the solution containing the malt to the test solution of iodine. In a second experiment the same solution in the water was made slightly alkaline at the end of thirty minutes, but the starch remained unchanged after fifteen minutes more, when the experiment was discontinued.

From these experiments it seems rational to infer that the diastatic power of malt is permanently destroyed by the presence of hydrochloric acid in not larger quantity than is found in the stomach, and therefore that malt given by the mouth is of no value as a digestive.

The action of diastase was found not to be noticeably affected by the presence of pepsin alone, or of pepsin and of as much hydrochloric acid as had previously been found to have no effect on this action. This is to be expected, for pepsin acts best in a two per cent. hydrochloric acid solution, and refuses to act in a neutral or very faintly acid solution, and it is probable that in a stronger acid solution, where the acid alone is sufficient to arrest the action of the diastase, the presence of pepsin would assist by digesting this ferment.

As confirming the results of these experiments in which a water-bath was used as an artificial stomach, the following, in which living stomachs were used, are of interest.

A litter of five kittens about one month old were chosen, and each one was given by the mouth some milk containing a measured amount of boiled starch, followed immediately by some more milk containing fluid extract of malt. More malt was given than would have been sufficient to digest the starch at the temperature of the body in a test-tube in seven minutes. The kittens were killed by ether ten, fifteen, twenty, thirty and sixty minutes respectively after their meal of malt, and the contents of the stomachs turned into vessels and tested by the iodine test for starch. In all cases starch was found present in large quantities.

Having considered this diastatic property and shown, it seems to me, conclusively that it is valueless in the ordinary method of administration of malt, the direct nutritive value of malt remains to be considered. That this is great is abundantly proven clinically, cases of malnutrition improving under its use in the same way as from the use of cod-liver oil. Malt, however, is often preferable to cod-liver oil, as it is free from disagreeable odor and taste, is not so liable to loosen the bowels as the oil is so apt to do in infants and young children, and is in many cases much more easily assimilated. It is hardly possible to make a comparison of the nutritive values of malt and cod-liver oil by an examination of their constituents, for the latter is composed almost wholly of various fatty acids,— oleic, palmitic and stearic,— combined with glycerine, with the addition of biliary principles and small amounts of iodine, phosphorus, lime, magnesia, and iron, and phosphoric and sulphuric acids, while the former consists chiefly of carbo-hydrates,— glucose and dextrine,— with a small amount of nitrogenous substances, among which is diastase, and of inorganic substances, chiefly phosphates of potash and magnesia, with small quantities of lime, soda and iron, and sulphuric and silicic acids.

With malt liquors and Liebig's food or malted wheat, however, a comparison can more easily be made, and the nutritive value of both of these is well known. Beer is essentially a solution of malt in water with the addition of hops and of alcohol and carbonic dioxide, the two latter formed at the expense of some of the glucose. Alcohol adds, of course, to its nutritive value, but that the chief value resides in the malt is evident, when we consider that people who drink the light wines, which are equal in alcoholic strength to beer, do not display that rotundity of figure seen in the beer drinkers. Liebig's food is malted wheat and differs from barley malt only by not possessing diastase, and by being made from a different grain. The nutritive value of wheat is, however, superior to that of barley, as it is superior to that of most other grains, it being especially rich in nitrogenous substances, constituents in which barley is comparatively poor.

In the following table, the amount of nutriment in a glass of beer, a tablespoonful of fluid extract of malt and a tablespoonful of malted wheat has been calculated from analyses given by Payen [4] and Leeds.[5]

	Glass Beer (℥ vii).	Ext. Malt (℥ ss).	Malted Wheat (℥ ss).
Water	gr. 3636.480	gr. 53.928	gr. 12.000
Alcohol	172.860	3.816	....
Glucose and dextrine	158.976	148.728	205.656
Nitrogenous substances.	2.026	7.464	14.280
Inorganic salts	.706	2.784	3.536
Glycerine	....	22.248	(fat) .360
Lactic acid	....	3.816	....
Grains	3970.988	242.784	235.232

The small amount of alcohol in the malt extract is due to the presence of the tincture of hops. The above is interesting, as showing that a glass of beer and a tablespoonful of the malt are practically of the same nutritive value as far as the sugar is concerned, while the tablespoonful of malted wheat or Liebig's food contains one-third as much again of sugar; but the two latter are superior to beer in nitrogenous substances, the malt containing more than three times as much, and the Liebig's food more than seven times as much; and they are also superior to beer in the inorganic salts, the malt having nearly four times as much, while the Liebig's food has nearly five times as much. Beer, of course, contains alcohol in addition.

[4] Préces theorique et prat. des subst. aliment.
[5] Leeds. Phila. Med. News, July 21, 1883.

The superiority of the Liebig's food in nitrogenous substances and minerals makes it preferable to malt, if the diastatic power of the latter is to be disregarded, by taking it directly into the stomach.

By way of summary, it may be said that although malt by reason of its contained diastase is able to convert starch into sugar in a watery medium at the temperature of the body, it has no power over starch in the living stomach, owing to the presence of the gastric juice. Administered directly by the mouth, therefore, it is of use only on account of its contained nutriment, and is inferior in the amount of nitrogenous and inorganic principles to a food formed by the action of diastase on wheat, that is to say, to Liebig's food.

REPORT ON PROGRESS IN THERAPEUTICS.[1]

BY FRANCIS H. WILLIAMS, M.D.

NAPHTHALIN.

Naphthalin seems to be of special value as an intestinal antiseptic or germicide — being so sparingly soluble that much of it remains to act upon the intestines and their contents from the stomach to the rectum. Rossbach advises it in intestinal catarrh. Borelius reports cases of typhoid in which it seemed to relieve the abdominal symptoms. Its value is especially urged by Dr. L. Emmet Holt,[17] in a paper on the "Antiseptic Treatment of Summer Diarrhœa." His conclusions are: That summer diarrhœa has many remote causes, but the single immediate cause is putrefactive changes taking place in undigested food in the stomach and bowels, the products of these changes acting either as systemic poisons or locally irritating agents, causing catarrhal and inflammatory conditions in the intestines. The diarrhœa is, at the outset at least, salutary, and the use of astringents and opium is not only useless, but, in the beginning especially, may do positive harm by checking peristalsis and increasing decomposition. (Opium in many other forms of diarrhœa he regards of value.)

The indications to be fulfilled are: (1) Clear the bowels; (2) stop decomposition; (3) restore healthy action; (4) treat consequential lesions. To meet the first he recommends castor oil, the second, salicylate of sodium or naphthalin, the third and fourth, if present, call for various measures, but in the majority of cases castor oil and salicylate of sodium or naphthalin were alone necessary. He gives statistics of 300 cases treated by the old routine of opium and astringents preceded by castor oil, resulting in 50% cured, 27% improved; also of 81 cases treated during the past year with castor oil and salicylate of sodium, resulting in 84% cured, 7% improved; and of 44 cases treated with castor-oil and naphthalin, 67% were cured and 15% improved. Resorcin gave only 55% cured, 22% improved. He says of naphthalin, it is of latest introduction and seems likely to prove of very great value, perhaps the most valuable of all. He also reports seven cases of chronic dysentery and twenty-one cases of chronic diarrhœa, treated by naphthalin *alone*, with uniformly good results. Concerning the dose and administration: it may be given in powder, mixed with sugar and taken in wafers or capsules, the taste is not bad, but very persistent and strongly suggestive of tar.

In summer diarrhœa of children, he used from two to six grains, according to the age, (when he used salicylate of sodium he gave one to three grains) every two hours. If the child were not on the breast he withheld milk entirely, and with vomiting he withheld all food for twelve to twenty-four hours. In chronic diarrhœa, dysentery and typhoid he used large doses of naphthalin, sixty to ninety grains daily.

One point in regard to naphthalin requires investigation before its extensive use can be with perfect safety recommended. A note in the *Vienna Zeitschrift des Œsterreichs Apotheker Vereins*, 1887, xli, p. 38, states that in the Paris Academy of Medicine, Prof. Bouchard reported that animals to whom naphthalin was administered internally developed beginning cataract within twenty days or less, generally in both eyes simultaneously, and that the cataract process thus begun did not stop with discontinuance of the drug. The theory was advanced that the affinity of naphthalin for sulphur affected the globulin of the lens.[18] Doubtless the doses used were, for the animal, excessive, and very likely have no important bearing against the therapeutic use of the drug. Certainly no untoward effects are reported from its clinical use, except dark-colored urine and a single case of dysuria from large doses.

RESORCIN.

This drug is favorably reported in the treatment of cutaneous and gastric disorders. Dr. Edward Maclay[19] claims for it the antiseptic properties of carbolic acid without the irritant properties of that substance. A two per cent. solution is antiseptic, and irritating to the tissues. It seems to possess special advantages in the treatment of gastric and cutaneous disorders. Dr. Maclay reports two cases of gastric ulcer with immediate recovery under its use. In gastric catarrh not relieved by bismuth, soda, etc., recovery followed at once under treatment with resorcin. Intestinal catarrhs, chronic diarrhœa, etc., were in no way benefitted by resorcin, nor were the evacuations disinfected, constituting a marked contrast to the action of naphthalin, and suggesting a special field of action for each of these two drugs; naphthalin for intestinal disorders or wherever it is desirable to disinfect the intestinal canal or render antiseptic its contents; resorcin for the same purpose in the stomach and externally on sensitive tissues. Internally Dr. Maclay employs five-grain doses of resorcin three times a day, given in water with a little glycerine, or in chloroform-water. The taste is peculiar, but slight, and easily tolerated. Much larger doses have been employed, but are not advisable, thirty grains having caused febrile disturbance, and sixty grains marked toxic action, dizziness and collapse.

CORROSIVE SUBLIMATE.

The use of corrosive sublimate as an antiseptic has been on the accepted ground that in the weak solutions employed, while destructive to germs it is not dangerous to the patient. Some recent observations and cases would suggest considerable caution, at least, in its use. Fleischmann, of Prague, reports a fatal case of acute poisoning in a healthy primipara, from

[1] Concluded from page 333.

[17] Medical Record, January 15, 1887. Therap. Gaz., February, 1887, 108, March, 1887, 184.

[18] Australian Med. Gaz., April, 1887, 165.

[19] Lond. Med. Record, September 4, 1886. Therap. Gaz., 1886, 761.

two vaginal douches before labor, sublimate solution 1 : 2000 being used. Abdominal pain, rise of temperature, diarrhœa occurred an hour after the second injection, followed by nephritis, salivation, continued diarrhœa, and, after the birth of the child, death in coma on the ninth day following the douche. The pathological anatomical diagnosis from the autopsy was: Corrosive sublimate poisoning, acute nephritis, dysentery, stomatitis and pharyngitis in the stage of ulceration, parenchymatous degeneration of heart and liver, lobar and lobular pneumonia, bilateral, acute cystitis. Investigation showed that the patient had left her bed and worked about the ward after the douching; that all ordinary precautions were taken to secure the complete expulsion of the fluid from the vagina. It is suggested as possible that some of the fluid entered the uterus through the dilated os, and it is further stated that the patient had a slight diarrhœa before the douching.

Fleischmann calls attention to the danger attending the use of sublimate in puerperal patients with any lesion or disordered conditions of the bowels or kidneys, and quotes an eminent authority to the effect that the use of sublimate in obstetrics should be limited to disinfection of the hands, instruments and external genitalia.[20] An article by the Paris correspondent of the *British Medical Journal*, October 9, 1886,[21] is of interest in this connection. He calls attention to the frequency of intestinal lesions coming to the notice of medical men, especially those in obstetric practice, since the wide use of corrosive sublimate as an antiseptic, and refers to the experiments of Prévost,[22] indicating that visceral lesions may be produced by sublimate. M. M. Cherin and Roger experimented on animals with sublimate solution of 1 : 1000 to 1 : 4000, injected subcutaneously or intravenously, and obtained uniform intestinal lesions, varying with the dose, localized in the large intestine, and consisting of ecchymoses, hæmorrhage and ulceration, the principal lesion being hæmorrhage. Perforation did not occur. These experiments, however, indicated a dose of 0.24 as necessary to produce ulceration in a man weighing 60 K., while some clinical facts seemed to indicate the possibility that smaller doses might cause such a result in man. The experimenters did not deem the possibility of such an accident, however, sufficient to lead to the proscription of the use of sublimate as an antiseptic.

Maximilian Jolles and Erlangen give an elaborate demonstration of the identity of lesions and clinical history in sublimate poisoning and septic infection.[23] Gläser, of Hamburg, reports twenty-three cases of typhoid treated with corrosive sublimate with very bad results and no benefits. In diphtheria, on the other hand, Dr. Verner reports [24] seventeen cases with very good results, giving one-fourth to three-fourth grains daily.

The conclusions warranted, seem to be that corrosive sublimate is an efficient antiseptic, but best adapted to external use, suggesting caution in its use in obstetries for douching, especially with any disorder of bowels or kidneys, and throwing doubt on the possibility of safe disinfection of the blood or intestinal canal by internal administration in infective diseases.

[20] Centralblatt für Gynæcologie, No. 47. Therap. Gaz., February, 1887, 126.
[21] Quoted in Therap. Gaz., 1886, 846.
[22] Described in the Revue Medicale de la Suisse Romande, 1882, p. 553.
[23] Wiener Med. Wochschr., 1886, Nos. 44 and 45.
[24] Les Nouveaux Remèdes, No. 19, 1886.

SUBCUTANEOUS ANTISEPSIS.

Dr. Albin Meunier [25] advocates the treatment of many diseases due to micro-organisms by the subcutaneous administration of antiseptic, especially eucalyptol and iodoform in pure vaseline. The difficulty of disinfection of circulating blood without danger to the patient is great, and any successful solution of the problem will be most welcome, but it hardly seems that it is so much to come by the method of administration as by the agents used. (Mercury is already administered subcutaneously for syphilis by some practitioners, and with good results, it is claimed.)

ANTISEPSIS IN PHTHISIS.

The therapeutics of phthisis have had the usual addition of "new remedies," promising very much the same history as former numerous discoveries of a like nature. The recent work, however, is based on the germicide theory, and the problem already alluded to seems equally difficult here. Bergeons, of Lyons, advances the treatment by rectal injections of sulphuretted hydrogen. Prof. Kremianski, in a paper before the Moscow Medical Congress, advocates inhalations of atomized aniline, while intrapulmonary injections of iodoform preparations are supported by several observers.

Concerning Bergeon's treatment, Wyss, of Geneva,[26] calls in question first of all the theoretical ground-work, showing at least the non-establishment of any destructive action by the gas on the bacilli, with their persistence in the sputum of patients treated by the gas, while both abroad and in America hospitals are reporting fully as adversely as favorably in regard to clinical results.

The aniline treatment is newer, has fewer clinical observations for or against it, but has in its favor what sulphuretted hydrogen has not: that it is a substance destructive, even in very great dilution, to the tubercle bacillus of Koch. (It would be interesting to follow out the results of large doses of antifebrin in phthisis, since that drug is of the aniline series, in connection with this germicide action of aniline.)

Intrapulmonary injections of solutions of iodoform in oil of eucalyptus, constitutes part of the so-called "subcutaneous antisepsis" already mentioned. Some very good results are reported in gangrene of the lung and in disinfection of pulmonary cavities, but nothing definite toward the relief of the essential conditions of phthisis. It must still be held, therefore, that a *specific* curative or remedial agent for pulmonary phthisis — beyond simple nutritive and hygienic measures — is yet to be established.

URETHAN.

This is a generic name given to a class of ethers derived from carbonic acid, the name signifying the close chemical relation of this class of *ethers* to *urea*. "Urethan," however, has recently been employed to designate one of this class of ethers: carbonate of ethyl, or strictly speaking, "ethyl-urethan," having the formula C_2H7O_2.[27] The urethanes were known chemically as early as 1833, when Dumas and Cahours announced investigations concerning them be-

[25] Lyons Medical, December 5, 1886, and January 2, 1887.
[26] Lond. Med. Record, March 15, 1887.
[27] Eloy in L'Union Medicale, March 14, 1886.

fore the French Academy. Carbonic acid and urethanes were then successively studied by Liebig, Woehler, Gerhardt, Wurtz and others. In 1884 Schmiedebourg conceived the idea of therapeutic experiments upon animals with urethan, from theories of action founded on chemical constitution. Jolly and Von Jaksch, later Riegel and Stiker, employed it clinically. The researches of Huchard and Eloy and many clinical observers followed, and the drug became established as a hypnotic agent. Ethyl-urethan or urethan as it is ordinarily called, is a white crystalline substance very soluble in water, alcohol and ether, at all temperatures. It is prepared by the action of ammonia on chloro-carbonate or carbonate of ethyl, or by heating in a sealed tube a saturated alcoholic solution of cyanogen. Schmiedeberg's conclusions concerning its action were: That it depressed the cerebral functions, slightly stimulated the respiratory centre, was irritating subcutaneously. Von Jaksch's clinical observations were on twenty cases, in which he states it rarely failed to produce hypnotic action. Dr. Huchard [28] gives fourteen cases of which two only, from excessive coughing and dyspnœa in tuberculosis, failed to be benefited, in all the others quiet refreshing sleep was obtained from it, coming on in from ten minutes to an hour after the dose, and lasting four to ten hours, and neither attended nor followed by any digestive disturbance or headache.

Without going into detail concerning the very numerous reports of its action and clinical use, the following points may be considered as fairly well established. It is a hypnotic, acting chiefly by depression of cerebral centres, not sufficiently powerful to cause sleep if pain, persistent cough, great dyspnœa, or analogous conditions are present. It is of no value in delirium tremens. In simple insomnia, nervous sleeplessness from worry, over-excitement, etc., and in many forms of sleeplessness in insanity, it is very uniformly effective, producing restful, dreamless sleep, closely simulating physiological sleep. It is slightly stimulant to the respiration and does not depress the heart, even in toxic doses. This is a marked advantage in action over chloral. It has in ordinary doses no unpleasant after-effect, but very large doses produce gastric irritation with nausea and vomiting. Concerning the dose: twenty grains seems a medium dose. Huchard gave forty-five to sixty grains, and considered a single large dose better than several small doses. German observers recommend doses of fifteen to thirty grains (some seven and one-half to fifteen grains.) Ordinarily a single dose of fifteen to thirty grains at bedtime gives sleep without after-effects. The drug is not disagreeable in taste, and as noted, very soluble. Prof. Anress [29] has demonstrated the antagonistic action of urethan to convulsive agents like strychnine and picrotoxin. He considers it a safer and more effective antidote to strychnine than chloral. Its therapeutic action, if correctly observed, is certainly opposed to such a view, as it is said to act chiefly on the *brain*, while strychnine convulsions are from the *cord*.

HYOSCINE.

After the hyoscyanine was isolated from hyoscyamus, it was believed that another alkaloid or alkaloids were present, since hyoscyanine was, in *action*, essentially atropin, while hyoscyamus had a distinctly *hypnotic* action not possessed by atropin. This led to the discovery by Ludenbourg, in 1881, of hyoscine, another alkaloid, isomeric with both atropin and hyoscyanine, of the formula $C_{17}H_{23}NO_3$. Hölm and Reichardt had already employed the name "hyoscine" to designate a decomposition product of hyoscyanine, but Ludenbourg showed that product to be identical with atropin, and transferred the name "hyoscine" to the new alkaloid.

The pure alkaloid has not been obtained in crystalline form, but its salts, the hydriodate, hydrochlorate, and hydrobromate, have been so obtained, and are chiefly used, hyoscine itself being a syrupy body unsuitable for use. The hydriodate is moderately soluble in water, the hydrobromate and hydrochlorate readily soluble. Kobert's [30] experiments were with the hydrochlorate. His conclusions, in brief, from experiments on animals and clinical use are: That it acts on the vagus, peripheral bloodvessels, secretory system, and pupil, exactly as atropin, increasing pulse-rate by vagus paralysis, dilating capillaries, checking secretion of sweat and saliva, dilating the pupil. On respiration it seems to have little action in animals, in man it may produce dyspnœa on the spinal cord, no action on the brain; in animals little if any action; in man, hypnotic action, *weak* in conditions of *health*, but marked in conditions of disease of almost any form, most marked in disease with over-excitation of cerebral centres. Then clinical evidence for its use is abundant and very generally favorable. Dr. J. Mitchell [31] recommends it highly, from personal experience in its use, in cases of insomnia with restlessness, delirium, and other forms of cerebral excitation. He considers it a valuable addition to hypnotic agents, and says his experience is that "for the troublesome, noisy delirium which disturbs a ward for a whole night, there is no treatment at once so prompt, successful and safe, as a hypodermic injection of hyoscine. He further urges that too much must not be expected of it; it does not cure disease, but is simply hypnotic, temporarily removing delirium and securing quiet and sleep. Furthermore, that it should be used in cerebral cases only to combat urgent symptoms. It has some serious disadvantages in the way of occasional incidental effects. "Within a half-hour after the administration of a full dose, $\frac{1}{100}$ to $\frac{1}{75}$, it may cause failure of respiration in the form of rapid, shallow breathing, or even Cheyne-Stokes rhythm, at the same time the pulse may become weak and infrequent, the face livid, the pupils dilated." Cough is sometimes aggravated by it. On the other hand he gives cases in which he used hyoscine with perfect safety in double pneumonia, cardiac dilatation, and in chronic Bright's with delirium. Death has not, to his knowledge, in any recorded instance, been attributable to an overdose of this drug. He closes with the important statement, counterbalancing much that might seem adverse, that perfectly good results have been obtained from doses far short of those productive of the disagreeable incidental effects named, and that in his hospital wards he has found $\frac{1}{300}$ grain a useful working dose. He does not think it checks perspiration.

Drs. Francis L., and John R. Haynes [32] of Philadel-

[28] Bull. Gen. de Therap., Paris, 1886, cx, 103-110.
[29] Pharm. Post, October, 1886.
[30] Archiv. f. exper. Path. d. Pharm. xxii, 6, 396.
[31] Prac., Nov., 1886.
[32] Therap. Gaz., 1886, 304.

phia, report their results in fifty-seven cases treated with hyoscine, prefacing their report with the quotation "Facts, sir, Facts." Their facts are: That generally it produced one or more of the following symptoms: (1) Delirium, rambling or muttering, hallucinations of vision, etc. (2) Sleep, sometimes apparently natural, sometimes disturbed. (3) Intense reddening of the whole face, with sensations of heat. (4) Muscular weakness, sometimes extreme. (5) Headache. (6) Dryness of the throat. (7) Dilatation of the pupil.

Of these fifty-seven cases, hyoscine produced: (1) Sleep in fifteen. (2) Delirium in thirteen. (3) No marked effect or followed by various symptoms in twenty-nine. The article is headed "Hyoscine Hydrobromate," the drug always spoken of as "hyoscine" and stated to be of Marck's manufacture, also that "the alkaloid was dissolved in pure alcohol (grain $\frac{1}{100}$ to minims 20). The *dosage* is in many cases rather heroic, rarely less than $\frac{1}{100}$ grain, often $\frac{1}{75}$, sometimes $\frac{1}{50}$, once $\frac{1}{33}$, and of large totals in rapidly repeated doses; "$\frac{1}{17}$ grain in five doses in six hours" "$\frac{1}{16}$ grains in ten doses in twenty-four hours," "$\frac{1}{8}$ grains in four doses," "$\frac{1}{12}$ grain in divided doses," etc. The symptoms certainly indicate a close approach to "belladonna poisoning," but it is difficult to explain the failure to get any effect from some of the large doses given. Some other observers report cases showing unreliability of action, and suggesting lack of uniformity in the preparations of the drug. In the hands of many other reliable observers the salts of hyoscine have certainly given excellent results as hypnotic agents.

Concerning the *dose:* Bruce used the hydriodate, making a simple aqueous solution, one grain to two hundred minims. He says the dose of the hydriodate is $\frac{1}{100}$ to $\frac{2}{100}$, and that the average dose in America is $\frac{1}{100}$. His own experience is that the best results are to be obtained from doses of $\frac{2}{100}$ in all ordinary cases of restless insomnia and delirium, *without any risk of unpleasant effects.* If the symptoms are very urgent, $\frac{1}{100}$ or $\frac{1}{75}$ *with caution*, may be given. The hydrobromate is very much used, the ordinary dose being $\frac{1}{100}$ to $\frac{1}{50}$ grains. It is not irritating subcutaneously. When effective, its results are rapid, sleep in from ten to thirty minutes.

Dr. Tirard [33] regards it perfectly safe in renal disease, his inference, however, being from a single case in which its use over quite a long period, gave excellent results.

AMYLHYDRATE.

This is one of the most recent hypnotics, and has been introduced by Professor von Mering, of Strasburg.[34] This substance, which was first prepared by Wurtz, is a colorless fluid, which boils at 100 C, is dissolved by eight parts of water and is miscible with alcohol in all proportions. It has a peculiar ether-like taste suggesting camphor, and a cooling after-taste resembling that of peppermint. Besides the usual trials of this new drug on animals, Prof. von Mering has used it on sixty patients. The number of doses given was 350, a single dose varying between three and five grammes (45–75 grains.)

The majority of these patients were suffering from insomnia, among them two had cardiac disease, other cases included delirium tremens, phthisis, typhoid, rheumatism.

Doses of three to five grammes produced a quiet, refreshing sleep, which came on in half an hour and continued six to twelve hours. In only four cases was its action incomplete. Twice it proved serviceable in children suffering from whooping-cough; it was given in doses of 0.2 gramme in the evening.

In sleeplessness due to pain, its action like that of chloral is uncertain. Ill effects were not observed, nausea and vomiting did not occur, and digestion was not disturbed by its use. Headache was not a consequence of its use; in one case only the patient complained of a slight unpleasant feeling in the head.

So far as the taste goes, amylhydrate has the advantage of paraldehyde, and patients give the former the preference.

The exhalations do not have an unpleasant odor, as is the case with paraldehyde, and the dose is smaller.

The hypnotic action of amylhydrate is weaker than that of chloral, though stronger than that of paraldehyde. One gramme chloral affording the hypnotic action obtained from two of amylhydrate or three of paraldehyde.

Amylhydrate has this advantage over chloral: it has less action, even in larger doses, on the heart and respiration. It is, however, weaker than chloral, and cannot take its place where an energetic hypnotic is demanded.

CALOMEL AS A DIURETIC.

The use of calomel as a diuretic has been previously considered. Evidence accumulates to establish this action. Prof. Stiller,[35] of Buda-Pest, publishes eighteen cases of cardiac dropsy treated by calomel, confirming the essential views of Jendrassik, an enthusiastic advocate of this use of calomel. Cases with great œdema of the extremities, peritoneal and pleural effusions, enlarged and congested liver, with marked dyspnœa, were restored almost to health, certainly to comfort, by the administration of calomel, and this in several cases, where digitalis failed to relieve, or, from unfavorable action had been necessarily discontinued.

Prof. Stiller believes that in cardiac dropsy, not only for the removal of œdema, but also of effusions into the serous cavities, small doses of calomel constitute the most efficient and rapid means of relief. He found that generally diuresis occurred on the third or fourth day after the commencement of the administration, and occurred generally very suddenly and to a marked degree. He thinks it advisable then to discontinue the calomel until the diuretic action begins to pass off, when it should be renewed in smaller doses. He secured most marked diuretic effect without the least signs of mercurialization. In his first case, however, diarrhœa occasionally occurred, but this was remedied and prevented by the employment of opium with the calomel. In one case only did he get stomatitis. His doses were: 0.15–0.20 (2½–3 grains) three times a day, or 0.10 (1½ grains) five times a day. The urine generally jumped to a large amount on the third or fourth day (for example, 650 to 3200, 480 and 600, to 3600, etc.), and the calomel was stopped for two or three days, when the urine began to fall off in amount, and calomel was resumed. (He does not state in what doses.) With diarrhœa, or to prevent it, he gave 0.015 opium (¼ grains) with each dose of calomel. He adds that, combined with

[33] Prac., Feb., 1887.
[34] Therapeutische Monatshefte, July, 1887.
[35] Wiener Med. Wochster., July 10, 1886.

or alternating with digitalis, calomel is an especially powerful diuretic agent. While this evidence is unquestionably strong, it can hardly be expected to place the calomel treatment above or even equal to the treatment with digitalis and allied drugs. Prof. Stiller found that in *renal* cases the calomel treatment was ineffectual.

STROPHANTHUS.

This drug seems to be giving good results as a substitute for digitalis. Prof. Fraser, in a recent article,[26] says that the tincture should be made from the *seeds* only, and should be of a standard strength similar to that of tincture of digitalis. He recommends the use of such a tincture in doses of five to ten minims. Strophanthin, a white, crystalline substance, soluble in water, proves a very active toxic agent, fatal to dogs, in doses of 0.0002 per kilo., continued administration of much smaller doses proving fatal in four to seven days.

Clinical reports[27] indicate than strophanthus is not good in cardiac cases *with renal* complications, but in uncomplicated cardiac cases, is decidedly beneficial.

LANOLIN.

This substance is a cholesterin fat, differing from ordinary fat in containing cholesterin in place of glycerin. The peculiarity of cholesterin fats is that they do not decompose by boiling with alkaline solutions; that is, do not form soaps; they are, in other words, more stable chemical compounds than ordinary fats. Another peculiarity is their ready absorption of water, absorbing more than 100 per cent., by simply stirring with water. Ventral glycerine fats, vaseline and petroleum do not possess this property. "Lanolin" is made from the oil of sheep's wool, or "wool oil," which under the name of "œsypus" is of very ancient use by the Romans, and through the Middle Ages by the Continental races.

Its impurities, however, due chiefly to rancid, fatty acids, and giving it very repulsive characteristics, led to its abandonment. Liebreich has, however, succeeded in freeing this "wool oil" from its impurities, fatty acids, etc, and the resulting substance is that which he has designated "lanolin."[28] In his paper before the British Medical Association at Brighton, he calls attention to the fact that many so-called "lanolins" are on the market not at all answering to the tests of a pure neutral lanolin as obtained by his process. The advantages of lanolin are: That it is neutral, stable, readily miscible with water, highly absorbable by the skin. It is especially valuable as an ointment base for the treatment of skin diseases, and for medication through the skin.

Agnine, a still later product, is from the same source, with essentially the same properties, readily absorbing four times its weight of water.

Robinson — What was the amount of your doctor's bill, Dumley? *Dumley* — I paid him two hundred dollars. *Robinson* — Two hundred dollars! That's too much. *Dumley* — He saved my life, you know. *Robinson* — Yes, I know he saved your life. But two hundred dollars, Dumley! That's too much. — *New York Sun.*

[26] British Med. Jour., 1887, i, 151.
[27] Medical Record, December 18, 1886.
[28] Therap. Gaz., 1886, 883.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

G. H. MONKS, M.D., SECRETARY.

Meeting Tuesday, May 3d, 1887, Dr. J. C. Warren in the chair.

Dr. S. J. Mixter reported a

CASE OF MALIGNANT TUMOR OF THE BREAST,[1]

and showed the specimen removed.

He emphasized the importance of thoroughly cleaning out the axilla in all such cases, whether the glands were apparently free from disease or not. In order to avoid the tying down of the arm as a result of such a procedure, he employed a special kind of stitch by which the skin was drawn up into the apex of the axilla, thus obliterating the dead space there, which would otherwise exist. He stated that he claimed nothing especially original for this method, but that he had been prompted to employ it because surgeons had considered the obliteration of the "dead space" in the axilla of so much importance that it had been proposed to fill it in with a special flap cut for the purpose. He thought the axilla should be opened up by an incision made close to the border of the pectoralis major.

Dr. W. F. Whitney said that the histological investigation in this case fully corroborated the statement of Dr. Mixter, as to the necessity of a complete removal of the tissue from the axilla, in case of cancer of the breast. For in the apparently normal fat tissue he had often found minute glands, which would escape anything but a microscopic examination, presenting evidences of implication.

In the tissue hardened and stained in the ordinary way the presence of the epithelial cells could only be made out with difficulty, from the much greater abundance of the ordinary lymphoid cells. If, however, a scraping was made from the fresh specimen and examined in a three-quarters per cent. salt solution, they could be readily seen and differentiated. In this earliest stage they apparently lie in twos or threes in the lymph channels, and have not as yet formed the typical alveolated structure.

Dr. Ingalls thought that every conscientious surgeon at the present time must believe that in all cases the axilla should be cleaned out, so as to anticipate, if possible, any recurrence of the disease.

He considered the suture, which was apparently a carefully considered modification of the old "button-suture" well calculated to pull up the skin into the axilla after operation.

Dr. O. K. Newell said that he had seen the suture as applied by Dr. Mixter, and was convinced of its efficacy.

The Chairman said that as a means of getting as little axillary web as possible and thus securing a good range of movement for the arm, he thought the plan of pulling up the axillary skin an excellent one. He had known patients to complain of limitation of movement in cases where no attempt had been made to prevent the formation of an axillary web.

The practice of removing the axillary glands in cases of cancer of the breast is now generally adopted. Though it complicates the operation, it has the advan-

[1] See page 328 of the Journal.

tage of more radically removing the disease. It also prevents incompetent practitioners from attempting the operation.

DR. H. P. BOWDITCH was much interested in the statement of the reader that the tumor had grown rapidly under massage. He said that he could imagine that massage might assist the dissemination of cancer, since passive movements are well known to help the circulation of the lymph.

DR. E. G. BRACKETT then read a paper on the

EXPERIMENTAL VALUE OF THE DOWSE SPLINT.[2]

The splint itself was shown, and its construction and working thoroughly explained. By means of numerous diagrams taken from instantaneous photographs of the positions of the body in the various stages of walking, Dr. Brackett showed how well the splint was calculated to allow the leg the motions of walking and at the same time to remove pressure from the hip-joint.

DR. E. H. BRADFORD stated that the appliance was not so widely known as it should be. It was as original, as complete an adaptation of mechanical ingenuity to meet surgical indications as Buck's extension or Bigelow's litholapaxy, and as efficient. It was entirely an American invention.

In every case of hip-disease successfully treated, there comes a stage, during which fixation is no longer needed, and extension becomes unnecessary. The joint is practically well, but protection is needed against jar, to prevent relapse. This can be done by means of crutches, but children leave crutches aside if walking causes no pain, and adults need their arms. The appliance shown protects the joint and enables the patient to walk about freely. Theoretically, criticisms have been urged against the appliance that it does not protect the joint. How it actually does, Dr. Brackett has shown, thus demonstrating experimentally the uses of an appliance which clinically has been found of service.

Dr. Brackett's perineal strap is of great assistance, particularly in adults, relieving the discomfort of a narrower pad. The weight of the splint is its only drawback.

DR. E. O. OTIS read a paper on

INJURIES TO, AND OPERATIONS UPON THE KIDNEY,[3]

and showed by diagrams the various incisions which had been recommended for operations upon that organ.

DR. JOHN HOMANS referred to two cases of abscess of the kidney in which he had operated, the one by the abdominal and the other by the lumbar incision. In one of the cases several small calculi were removed. Unfortunately, however, the result in both cases was a fatal one.

He thought that an operator contemplating the extirpation of a suppurating kidney, should first thoroughly drain it through an incision in the loin.

DR. H. L. BURRELL said that he recalled two cases that might be of interest in connection with Dr. Otis's paper. The first was that of a woman who had been sent to him to be operated upon for an ovarian tumor; on examining her he found a suppurating movable kidney of the left side. He exposed the tumor through the flank with the intention of removing the whole kidney, but found, owing to the lack of space between the floating ribs and the crest of the ilium, that this would be impracticable, and consequently he simply drained the pelvis of the kidney. The patient died in twenty-six hours with suppression of urine. The autopsy showed extensive disease in the other kidney. The case illustrated to his mind that in certain cases where nephrectomy was planned, the operative procedure could not be carried out through a lumbar incision. The second case was that of a man who had had symptoms of stone in the kidney for several years, who had been the rounds of the different hospitals, and finally consented to be examined under ether and have the renal area aspirated. As fortune would have it, the first plunge of the needle came down on the stone (this was verified by several gentlemen present in the amphitheatre of the hospital); unfortunately Dr. Burrell had not obtained the patient's consent to remove the stone. Within a few days, after obtaining the patient's consent to the operation, the patient was again etherized and the kidney freely exposed through the usual lumbar incision.

The stone was searched for most diligently, the kidney was explored in all directions by means of a grooved needle, but no stone could be found. Nephrotomy and nephrectomy were considered unadvisable, as the kidney was apparently a healthy one. The patient made a recovery; on the twelfth day he had a sharp secondary hæmorrhage from the sides of the lumbar incision, which was easily controlled by pressure forceps.

Strange to relate, the patient has been greatly benefited by the operation, and the symptoms of stone have entirely disappeared, he having been restored to apparent perfect health.

Dr. Burrell thought that this case illustrated the occasional benefits derived from an unfinished operation. Regarding the expediency of nephrectomy in such cases, he cited a case where Mr. Henry Morris[4] removed a healthy kidney by lumbar nephrectomy which had imbedded in it a calculus, the size of a marble; even after the removal of the kidney, the locality of the stone could not be made out by pressing the organ between the finger and thumb; nor by pressing the kidney as it lay upon a table. Only after section of the organ was the calculus demonstrated.

DR. F. S. WATSON said that his own experience in operations upon the kidney had been small, being limited to three cases of lumbar incision, twice for perinephritic suppuration, and once for an acute hydronephrosis, due to obstruction from stricture of the ureter. He thought that the incision in cases of calculous nephritis, where the endeavor was being made to extract the stone, should if possible be made through the substance of the organ rather than through the pelvis of the kidney, because thus a better chance of the wound's healing without leaving a urinary fistula, was afforded. Hæmorrhage had been a prominent feature in the cases that he had seen, however, where the tissue of the gland was divided, but of such a character, that it could generally be controlled by pressure from packing the wound.

The choice of the abdominal or lumbar incision depended upon the nature of the case. Where draining a suppurating cavity, or the removal of stone, or the fixing of a movable kidney was contemplated, lumbar nephrotomy seemed to be the best operation. If nephrectomy were intended, the question was more

[2] See page 321 of the Journal.
[3] See page 349 of this number of the Journal.
[4] Dis. of Kidney, Henry Morris, Pl. iv, p. 827.

doubtful, and in spite of the greater mortality of the abdominal operation, it would often be the better one, on account of the greater extent of the field of operation.

It should be remembered that anomalies occasionally occurred in the renal artery, which instead of being always given off as one branch, sometimes came off the main vessel in two or three branches, so that they might not all be secured in the pedicle in a nephrectomy, and give rise to dangerous hæmorrhage before they had been secured.

The operation of nephrectomy seemed of doubtful advantage in cases of malignant growth.

Dr. Mixter believed that in primary operations for suppurating kidney, the question as to whether the kidney should be removed or not, generally settles itself as soon as the kidney is reached. In some cases the interior of the kidney is converted into one large abscess cavity, of which the thinned and atrophied kidney substance forms the wall. Excision in such a case is, of course, impossible.

Dr. H. W. Cushing said that the allusions to the want of sufficient room for operation, recalled the incision first suggested by König, known as the "retroperitoneal lumbo-abdominal" (Lendenbauchschnitt) incision.

The advantages claimed are that it makes the kidney surprisingly accessible, that it can be lengthened if the operation requires, and finally, that the surgeon can perform a postperitoneal or an intraperitoneal operation as the conditions presented indicate through the same incision. It has been claimed that this operation, on account of the extensive division of broad muscular layers was especially subject to subsequent ventral hernia. Dr. Cushing inquired if the reader had seen any reports of this accident having occurred? Dr. Otis replied that he had not.

The Chairman stated that nephrotomy for stone was becoming a more frequent operation. By this is meant the operation upon the otherwise healthy kidney, and not merely the removal of a calculus from a suppurating kidney. One or two such operations had recently been performed in this country with satisfactory results. As to the best place to make the incision for removal of the kidney, that depended upon the size of the organ. In large tumors the linea semilunaris offered the best opportunity to explore through.

He thought it required considerable experience to decide upon the question of operative interference in tumors of the kidney, and that the majority of cases of malignant disease of the kidney had better not be meddled with.

Dr. Homans showed several

ABDOMINAL TUMORS,

recently removed.

The first was a large dermoid cyst of the ovary, containing teeth and hair. The latter was matted into a bunch nine-and-a-quarter inches long.

The second was a fibroid of the uterus, weighing seventeen pounds, from a woman forty-five years old.

The third was an ovarian cyst from a woman who weighed over two hundred pounds. The operation was complicated by the unusual depth of incision necessary to reach the tumor, the fat upon the abdominal walls being about six inches thick. The tumor was also extremely adherent. The fluid from the tumor weighed sixty-six pounds.

AMERICAN GYNÆCOLOGICAL SOCIETY.[1]

Twelfth Annual Meeting.

WEDNESDAY, SEPTEMBER 14TH. — SECOND DAY.

AFTERNOON SESSION.

A CASE OF ACUTE DILATATION OF THE STOMACH FOLLOWING LAPAROTOMY,

by Dr. James B. Hunter, of New York.

The patient was a married woman, aged twenty-five years. Had been married four years, but never pregnant. Menstruation was painful, and quite profuse. There was severe pain in the lower part of the abdomen, aggravated by walking. For four years, she had been the subject of right inguinal hernia. There was no emaciation. She had been subjected to long-continued treatment without benefit. Examination showed marked endometritis, with prolapsed and painful ovaries. Tait's operation was decided upon. Previous to operation, the patient was subjected to a careful physical examination, and no organic disease found. There was nothing unusual to direct attention to the stomach. The operation was performed in the usual manner, the pedicles being secured with catgut, and returned to the abdominal cavity. Following the operation, there was continued nausea and vomiting, and the patient died on the ninth day from exhaustion. At the autopsy, the abdominal cavity was filled by the dilated stomach, which extended to within three inches of the symphysis. The stomach contained a gallon of dark, sour fluid. There was no obstruction of the pylorus. The mucous membrane showed evidences of chronic inflammation, and there was marked atrophy of all the coats.

There are cases on record in which acute dilatation of the stomach occurred under almost similar circumstances, but the cause of this condition is very obscure. This patient had an inguinal hernia — which, it has been claimed, may cause dilatation of the stomach by traction on the fundus. This case points to the fact that there should be greater vigilance in searching for other conditions than those in the pelvis. We should carefully exclude diseases of all other organs, diseases which may determine the result in laparotomy.

THE INTRA-UTERINE STEM IN THE TREATMENT OF FLEXURES,

by Dr. A. Reeves Jackson, of Chicago.

The object of the paper was to present the results which he had observed in a selected class of cases, and to explain the details of the method used. A large proportion of flexions of the womb do not need any treatment, others are wholly unamenable to treatment, while others are made worse by attempts at treatment. The author began the use of the stem-pessary in 1870. Previous to that time, he had used dilatation of the cervical canal, and incision of the cervical wall, separately or combined. The results were unsatisfactory. All the cases thus treated relapsed. The single symptom which was regarded as an indication for the treatment of a flexion was dysmenorrhœa.

Details of the method. Having determined the presence of a flexion, a flexible, olive-tipped bougie is introduced, and allowed to remain from two to ten minutes, according to the amount of irritation produced. This is repeated at intervals of from one to three days. The size of the bougie is gradually in-

[1] Continued from page 336.

creased. This treatment is continued until tolerance is induced. Then, at the close of a menstrual period, a soft rubber stem, one-third of an inch shorter than the uterine canal, and of a size that can be readily introduced, is passed into the uterus, and maintained in position by a tampon soaked with glycerine. The tampon is removed after two or three days, and is repeated as long as there is any tendency for the stem to slip out. This soft stem should be worn six or eight weeks, when it should be replaced by a larger stem, and in six or eight weeks, a still larger one. As soon as the womb can be readily straightened, a more rigid stem should be employed. This should be of vulcanite. The pessary should not be such as will stretch the internal os, but above this point, it may, with advantage, have a bulge. In a few cases, it was not found necessary to resort to the stiff instrument.

The hard stem is worn continuously for three months. It is then removed for a week or ten days. If there is then found a tendency to return to the former condition, the stem is again introduced, and worn for another period of three months. The essential principle in this plan of treatment consists in its gradual conduct. The uterus must be coaxed, not forced, into proper shape. Any method of treatment which involves the rapid removal of the flexion is dangerous, and not liable to be of permanent benefit. In no instance has inflammation followed the use of the stem. Where the flexion is maintained by adhesions, or where there is evident inflammation, the stem is not to be employed.

The stem has been used by the author in sixty-seven cases, forty-three married, and twenty-four unmarried. Nine of the former had borne children, and eight of the latter subsequently became pregnant. Forty-one of the cases were cured, five improved and relieved of dysmenorrhœa, and in twenty the result was not known.

DISCUSSION.

Dr. Ogden, of Toronto. I am perfectly in accord with Dr. Jackson's paper. There is no use in trying to straighten the uterus suddenly. When the uterus is accustomed to the presence of a foreign body, the stem-pessary is calculated to do a great deal of good. To retain the stem in position, I use dry, non-absorbent cotton, dusted with boric acid, in preference to the moist cotton. This can be left in three or four days.

Professor Laurence, of Bristol, Eng. In England, intra-uterine stems are in great disfavor. My own plan has been similar to that of Dr. Jackson. I use the stem in selected cases, where the only cause of the dysmenorrhœa is the bent condition of the uterus. I gradually prepare the uterus for the use of a stiff instrument. I would relate the following case: A married woman, aged thirty-five years, was sterile, and suffered with dysmenorrhœa and inter-menstrual hæmorrhage. After wearing the stem for two months, the bleeding ceased, and the dysmenorrhœa disappeared. In six months I removed the pessary, and the woman became pregnant. I have had many such cases. The first thing is to be sure that the trouble is due entirely to the bent condition of the canal. I have dilated canals, and incised them, but never with the results that I have obtained from the intra-uterine stem.

THE TECHNIQUE AND TREATMENT OF UTERINE FIBROMATA BY ELECTROLYSIS,

by Dr. G. Apostoli, of Paris, France.

The paper was read in French. The author described in detail the method of treating uterine fibroids, which he had recommended. He has found electrolysis successful in checking the growth of the tumor, and in decreasing its size. He does not regard the plan of treatment as dangerous, having lost but two patients out of two hundred cases, and in these instances death was not directly attributable to the operation. He has also used this method for the relief of nervous pain in hysteria, employing the constant current, long continued. This also relieves pain associated with effusion. In four cases, galvano-puncture per vaginam has cured ovarian cysts after the treatment has been continued two years.

DISCUSSION.

Dr. James R. Chadwick, of Boston. I am sorry to say that my results have not been so satisfactory as those of Dr. Apostoli. For the past six months I have employed this method. I must, however, say that the current has not been applied as frequently as has been recommended by the author. I have used this method in from twelve to fifteen cases. The greatest number of applications was seventeen or eighteen. Several cases received seven or eight applications. Others received a less number. In one case of small fibroid, after five or six applications, the length of the uterine canal was diminished from 3.75 inches to 3.25 inches. In a case which received seventeen applications, I could detect no change. In two cases of multiple fibroids, one or two applications were followed by fever and pain, and what might be called metro-peritonitis. Both recovered. In two cases death has followed the treatment. In one case the tumor was smaller than the fist. The patient went home after the application and the next day began to have pain in the pelvis. I saw her on the fifth day. She then had acute metro-peritonitis and died on the eighth day. No autopsy was made. The second case was one of enormous fibroid springing from the posterior lip and filling the vagina. The treatment had been carried on for some time by another gentleman, with good results. The case was then referred to me. I made five applications, in every instance following the aseptic method closely. The fifth application was followed by septic infection. This was followed by profuse suppuration, and at the end of four weeks the patient suddenly died of what I suppose to have been pulmonary embolism.

VENTRAL HERNIA AFTER LAPAROTOMY AND ITS SURGICAL TREATMENT,

by Dr. James R. Chadwick, of Boston.

The history of cases of ventral hernia following laparotomy, shows that the affection does not appear immediately, but usually a year or more, later: The protrusion tends to increase steadily until it may assume enormous proportions. The use of pads and trusses to arrest the progress of the lesion has, as a rule, been of little value. The hernia causes a dragging sensation, colicky pain, meteorism and indigestion. There is liability to inflammation of the sac or to its rupture. Strangulation has not supervened in any case of hernia after laparotomy. The frequency of this lesion is probably greater than is appreciated.

Early operations probably tend to increase the liability to hernia, for the abdominal walls are then more tense than after the removal of a large tumor. The use of the drainage tube may favor its development, and in these cases it was suggested that a suture be placed on each side of the tube and when the tube is removed they can be tightened, thus closing the opening. In regard to the cause of the hernia much stress was laid upon the fact that in the operation, the fascia covering the rectus muscle was cut. The two portions of this fascia at once retract, and if not brought together when the wound is closed, will leave a weak spot. The hernia results from the failure to unite the musculo-aponeurotic layers.

The following case operated on by the author in April, 1887, was described: The patient was a woman, forty-four years of age, of strong, muscular development. In 1872, she had an ovarian tumor, weighing sixty pounds, removed. The abdominal incision was closed with unusual haste on account of the collapsed condition of the patient. The pedicle was secured with the clamp in the lower angle of the wound. Three years later the wound began to bulge. Every form of truss was applied, but the hernia gradually increased. The menstrual periods lasted ten days, one-third of the quantity of blood escaping from the stump. There was severe lancinating pain in the hernia. The skin over the lower portion of the hernia was extremely thin and the patient was in constant fear of rupture. The abdominal walls were loaded with three or four inches of fat. The operation was performed under strict aseptic precautions. The whole sac was laid open. Ten silk sutures were passed through the integument, three inches of fat through the rectus muscle and peritoneum one inch from the edge of the opening, and then through the opposite side. The abdominal tension was very great.

The convalescence was uneventful although there was considerable suppuration in the cellular tissue. The union was ultimately complete and firm. Five months have elapsed since the time of operation.

THURSDAY, SEPTEMBER 15TH.— THIRD DAY.

Discussion of DR. BANTOCK'S paper on

THE TREATMENT OF THE PEDICLE IN SUPRO-VAGINAL HYSTERECTOMY.

DR. A. MARTIN, of Berlin. The principal objection to the dropping of the pedicle is the danger of hæmorrhage. This danger, I think, does not exist. In Berlin, it is the practice to treat the pedicle by the intra-peritoneal method. In performing this operation, I surround the pedicle with Esmarch's constricting apparatus. In removing the body of the uterus, a V-shaped excavation is made in the cervix. The upper portion of the cervical canal is then dissected out, and the lower portion carefully disinfected. The cavity thus formed is brought together with sutures. Next, the two flaps of the cervix are united, and then the edges of the peritoneum are brought together. In this way, danger of hæmorrhage is avoided. I think that the method of fixing the pedicle will have little influence on the development of sepsis. Many of these patients die from the effects of their disease. The intra-peritoneal method of treating the pedicle is certainly the ideal method. In the treatment of ovarian tumors, the intra-peritoneal method was first employed, and then a great advance was made when it was treated outside, but now the general rule is to drop the pedicle in these cases.

Up to the end of 1886, I had had eighty-four supra-vaginal amputations of the uterus. Of this number, ten died of sepsis, and seventeen died of collapse following embolism. This series includes a number of very unfavorable cases. Of my last thirty supra-vaginal hysterectomies, I have lost three.

DR. A. R. SIMPSON, of Edinburgh. I do not think that we can say that either method of treating the pedicle is the best in all cases. Each case must be decided by the conditions met with in that particular case. I think that, in the treatment of fibroid tumors, the clamp will hold its ground, for the reason that, in this way, the pedicle can be secured in a much shorter time, and this is an important point.

Dr. Bantock has objected to the use of iron. I agree with him that the solution of the perchloride should not be used, for it is difficult to confine a liquid to the desired point, but the persulphate, in the form of a powder, does not offer this objection. I have used this in combination with iodoform and bismuth powder over the stump, with entire satisfaction.

DR. WILLIAM GARDINER, of Montreal. My experience amounts to only five or six cases, but, in these, I have used the clamp, and, so far, I have seen no reason to change my mode of procedure. The best results, so far, have been obtained from the extra-peritoneal method.

DR. H. MARION SIMS, of New York. I have employed the extra-peritoneal method in the hysterectomies which I have performed. I have seen my father employ the intra-peritoneal method with such unfavorable results, that I have feared to try it. I have had eight cases, of which two died of sepsis, the result of sloughing of the stump.

DR. MATHEW D. MANN, of Buffalo. I have had six cases in which I have removed the uterus or fibroid tumors from the uterus. In the first case, where I removed a fibroid tumor weighing fifteen pounds, I encircled the pedicle with a ligature, and dropped it. Six hours later, the woman was in a state of collapse from hæmorrhage. I opened the abdomen, and secured the pedicle with a wire clamp, and the woman recovered. Since then, I have always used the clamp. All my cases have recovered. In the after-treatment of the stump, I have rubbed it with iodoform, packed cotton around it, and left it exposed to the air. In this way, it dries quickly and becomes perfectly hard.

DR. G. G. BANTOCK, of London. I would call attention to the fact that, while my mortality from the extra-peritoneal method of treating the stump has been twelve in seventy-two cases, that of Dr. Martin in the intra-peritoneal method has been twenty-seven in eighty-four cases. The number of cases, however, is not large enough to be of much value. The proportion of septic cases with the intra-peritoneal method was greater than with the extra-peritoneal method. In regard to the use of iron, I believe that it is a mistake to apply anything to the stump. If the pedicle is properly trimmed, it becomes as hard as horn in two or three days. The greatest care should be taken in bringing the edges of the peritoneum accurately together, so that nothing may pass down from the stump.

(To be continued.)

NEW YORK STATE MEDICAL ASSOCIATION.[1]

SECOND DAY.— MORNING SESSION.

RECENT AND NEGLECTED CASES OF DISLOCATION OF THE RADIUS AND ULNA, UPWARD AND BACKWARD UPON THE HUMERUS.

Dr. Uri C. Lynde read a paper with this title. Only neglected cases of dislocation of this kind had come under his observation. When allowed to remain unreduced the deformity was considerable, and the function impaired if not entirely lost. This dislocation became the soonest irreducible. He first considered reduction when recent. The surgeon had to deal with three factors; muscles, ligaments and bones. In all cases in which the brachialis anticus remained intact, it was the chief factor on which the surgeon relied to accomplish reduction. Dr. Lynde thought the mechanism of reduction in these cases depended upon the flexion of the forearm upon the arm, and not upon pressure upon the radius and ulna. There were but two indications to accomplish reduction, the first being to remove the coronoid process from the olecranon fossa, the second, to aid the brachialis anticus to draw the humerus into position. There were two methods, the one by over-extension and traction, the other by flexion and traction. By the first method the coronoid is lifted from the olecranon fossa; by the second it is rolled from it. In both methods, traction from the wrist is practised to aid the brachialis anticus in drawing the humerus into normal position. Should this muscle be torn, traction will be aided by the biceps. Soon after the dislocation the patient is himself able to reduce it, but after some weeks or months reduction is very difficult. Dr. Lynde here gave reasons for this increased difficulty in reduction with the lapse of time. He objected to the practice of over-extension in old cases as it endangered the vessels. Flexion was safe; that is, it did not involve danger to vital parts. If necessary, the triceps might be cut, and some surgeons drilled the coronoid process subcutaneously to weaken and break it. If necessary to retain the parts in place, a splint might afterwards be worn.

Dr. E. M. Moore favored over-extension in the reduction of old cases. He doubted whether there was much danger to the bloodvessels and nerves.

Dr. Carman, of New Haven, thought it unnecessary to put the knee in the bend of the elbow while practising reduction, as it was equally unnecessary to insert it in the axilla in reducing a dislocation of the shoulder; the thumb answered the purpose as well as the knee.

Dr. J. W. S. Gouley, of New York, then read

AN ADDRESS ON NOSOGRAPHY.

The object of the essay was to urge official adoption of a human nosography founded on a stable basis; to place before the medical profession a criticism upon the nosography of diseases in general, and of affections of the male urinary genital apparatus in particular; to awaken the attention of teachers to the necessity for improving the nomenclature of medicine, pointing out some misused words and proposing others for their consideration; to summarize modern views on the pathoanatomy of urinary genital affections, and indicate methods of diagnosis and treatment considered to be safest and most efficient. Dr. Gouley criticised the use of the word "system" in the phrase genito-urinary system. It should be discarded for the word apparatus. The same in speaking of the genital and other apparatus, the word system should not be employed. The work of nosographers of the past was reviewed.

The paper was referred to a committee composed of Drs. Carroll, Moore and Cronyn, who were afterwards given power to add to their number.

SECOND DAY. — AFTERNOON SESSION.

DISCUSSION ON TYPHOID FEVER.

Dr. Alfred L. Carroll opened the discussion with a paper in which he raised the following seven questions, namely:

(1) Does the term typhoid fever properly include all the varieties described by observers; or are there other, still undifferentiated, continued fevers commonly grouped under this head?

(2) Is typhoid fever always the product of a specific contagium from a pre-existing case; or may it arise, *de novo*, from filth-fermentation.

(3) What part is played by micro-organic ferments in the causation of enteric fever?

(4) Is there a disease of the lower animals transmissible to man as typhoid fever?

(5) What media of causation or transmission of typhoid fever are to be guarded against in public or private sanitation?

(6) What are the complications and sequelæ properly associated with typhoid fever?

(7) What are the indications for treatment, and are relapses or untoward complications favored by some antipyretic measures?

Speaking to the first question, the author thought that some of the described varieties of typhoid fever differed the one from the other as widely as the general group differed from typhus fever. The general experience of the profession had taught us not to place implicit reliance upon the temperature, or other one clinical phenomenon, in diagnosticating the disease. Nor was the diagnosis always cleared up by the necropsy. He thought we were justified in speaking of a specific exanthematous fever with local lesions in the intestinal glandular apparatus, apparently developed only from changes which took place in the excreta of a previous existing case, and which might, until a clearer idea of the pathology was obtained, be entitled enteric fever. One attack, as a rule, afforded immunity for the future. There were many well-authenticated cases of adynamic fever occurring in isolated rural districts where no connection with a previous case could be discovered, but it had not been proven that such cases were undoubtedly those of what might be classed as enteric fever. Adynamic fevers, resembling typhoid or enteric fever in the clinical history could be traced to filth-fermentation.

Speaking of the fifth question, he said the most common source of danger was the water. The filtering power of the soil might be over-taxed; nor could implicit reliance be placed in artificial methods of purification. The simplest method was to boil the water half an hour. In public practice, the only wise rule was to see that the water-supply was absolutely uncontaminable by drainage.

As to the seventh question — what are the indications for treatment? — he said purity of air, water, and soil was as essential to recovery as to the preserva-

[1] Continued from page 340.

tion of health. We should try to maintain nutrition. Cold baths might be useful in certain cases, but their routine adoption was to be deprecated. It was a question whether more relapses did not take place when antipyrine was employed.

Dr. E. G. Janeway, of New York City, discussed the first two questions, but the first he changed as follows: Do we encounter, in this state, a form of continued fever not due to typhoid poison, and liable to be mistaken for typhoid fever?

Every physician having had any experience must admit to having had doubts regarding the nature of the poison which had excited the fever in certain cases. Typhoid fever was no more bound in its course to rigid rules than was pneumonia. The writer had seen, in the course of a single year, as many as twenty cases of typhoid fever, which had been called remittent, typho-malarial, and simple continued fever. He did not think types had changed so much as had the diet and treatment, which latter would account largely for the diminished frequency of diarrhœa.

Those engaged in private practice, and those in the country, where it was difficult to get an autopsy, were the strongest upholders of the view of the divisibility of the cases of typhoid fever. Many cases of true typhoid fever in isolated places were regarded as malarial, typho-malarial, etc. Regarding typho-malarial fever, he was of the opinion that a large proportion of the cases in this latitude were cases of pure typhoid fever. He had seen no reason to credit a cause to be known as a typho-malarial cause of an acute or separate disease process, but certain cases with previous malaria, in which typhoid fever developed, modifying the course of the disease, had given rise to the supposition. It would be wiser to stick to the nomenclature of typhoid fever, and look upon the malarial element as a complication.

As to the second question, he admitted a germ as the original cause of typhoid fever; but when the question was asked — did it always arise from a pre-existing case? — we encountered trouble. That it had often arisen from previous cases could readily be proven, but it was difficult to prove that it was *always* due to a previous case. Dr. Janeway had found but very few recorded cases in which it appeared that the disease had developed in entirely isolated surroundings, such as seemingly to preclude the possibility of contagion derived from another case, and in none, he thought, had the proof been altogether beyond question. He was willing to entertain the possibility of a spontaneous origin, but he could not admit that it had been proven beyond doubt.

Dr. Hermann M. Biggs discussed the third question. He summed up as follows: There are invariably found in the spleen, mesenteric glands, Peyer's patches, sometimes in the liver and kidneys, in cases of typhoid fever, peculiar, short, thick bacilli. This bacillus is the only organism found in uncomplicated cases of this disease in the internal organs, and is never found in any other condition of health or disease. All experiments thus far to produce typhoid fever in lower animals have been unsuccessful. The bacillus, as present in the stools of typhoid fever patients, has been found, in a few instances, in the water which has been the source of the disease.

D. E. Salmon, D.V.S., of Washington, discussed the fourth question without notes. The facts which came under his observation were necessarily of a one-sided character. Typhoid and other infectious diseases, in man, he saw only in exceptional cases. He had no reason to suppose that there is a specific disease in animals which produces a specific disease in man attributed to the bacillus just described. The bacillus in the cholera of hogs seemed to be identical, in microscopical appearances, with the bacillus described in typhoid fever of man, and it was similar in its ability to live and multiply in reasonably pure drinking-water. But, in spite of the fact that hog-cholera is so common in this country, no facts had come to his knowledge to show that it had produced a specific disease in man. He hoped that, in the future, we should be able to separate the specific ptomaines produced by the growth of the specific virus of the different contagious diseases, and, by using these, be able to produce a degree of immunity equal to that produced by one attack of the disease. The only way in which we have been able to produce immunity by the use of ptomaines, thus far, has been by hypodermic injection.

He thought that, for the advancement of science, there should be more sympathy of work between those who made a study of the diseases of man and those who studied the diseases of animals.

Dr. Charles A. Leale and Dr. Everard D. Ferguson discussed the fifth question. The former dwelt considerably upon the disposal of sewage by vegetation on garden-farms, and to the labors in this direction of Dr. Carpenter. He expressed sympathy for the over-worked hospital interne, who was peculiarly disposed to contract typhoid fever when exposed to the poison.

Dr. Ferguson gave the history of two epidemics of the disease in a portion of Troy, in the first of which it was traced to the water-supply from wells which tapped a superficial underground basin; in the second, to the water and air at the time of an overflow.

Dr. Charles G. Stockton discussed the seventh question, and said that the greatest attention should be given to the diet. Only a limited amount could be assimilated, and should be given in the form most easily digested. It should be peptonized. To reduce the temperature, he would try sponging first. The injurious effects of antipyrine, etc., doubtless was often due to their abuse, rather than to the fact that they were contraindicated. It was most important to provide an airy, sunny, quiet room, a large, single bed, and a good nurse, first and last.

(To be continued.)

Recent Literature.

Cyclopædia of Obstetrics and Gynæcology. Vol. 6: Gynæcological Examinations, Minor Therapeutic Manipulations and Elementary Operations, Operations on the Ovaries. By Dr. A. Hagar and Dr. R. Kaltenbach. Vol. 10: Diseases of the Female Urethra and Bladder. By F. Winckel, M.D., and Diseases of the Vagina, by A. Breisky, M.D. New York: Wm. Wood & Co. 1887.

The publishers of these volumes are well known for their enterprise in bringing before the medical profession, each year, a series of works at a moderate price, embracing original monographs and translations, the volumes being issued monthly, and sold only by sub-

scription as a set. This year, instead of a variety of subjects, as has usually been the case, they have confined themselves to obstetrics and gynæcology; and, in the twelve volumes, some of which have already appeared, propose to so well cover the subjects comprised under these two heads, as to warrant the name of Cyclopædia for the completed work.

The two under consideration are the first which have appeared treating of gynæcological subjects. Volume 6 is a translation of the first part of Hegar and Kaltenbach's well-known work on "Operative Gynæcology," which has been a standard book in Germany for many years, and Volume 10 needs nothing more than the well-known names of its authors, Winckel and Breisky, to recommend it. We are heartily glad to see both of these brought within the reach of the large numbers of our profession who cannot read them in the original, and feel sure that who ever subscribes for the complete set will not regret the outlay. It is an opportunity to obtain, at a moderate cost, books which rank among the best that have appeared in Germany. The translation is, in general, very carefully done, and the volumes are issued in a very neat and attractive form.

Anatomical Research in the Human Rectum, and a new Method of Rectal Inspection. By WALTER J. OTIS, M.D. Part First. Leipzig: Veit & Comp. 1887.

This is a very handsome monograph printed in German and English in parallel columns, and illustrated by eight fine plates and one wood-cut. This first part of Dr. Otis's work treats only of the rectum of the male cadaver, the new method of examination in the living being reserved for a future one. Dr. Otis's investigations, begun at the Harvard Medical School, where he was one of the assistants in anatomy, have been continued in Professor Braune's department at Leipzig.

The mucous membrane and the muscular layers of the rectum have been thoroughly studied, and the results clearly expressed. The essential point of the paper is that the rectum is sacculated, like the colon. Many readers will, we imagine, be disposed to think the figures of the folds of the plates exaggerated, but we are convinced from the study of preparations at the Harvard Medical School, made by Dr. Otis, that such is not the case. He does not believe in the existence of the third sphincter. He believes that the gathering together of the circular fibres in the folds of the rectum is for the purpose of expelling the contents, as Dr. Chadwick has already maintained, but he does not explain, as he should, how a system of folds is a help, rather than a hindrance. Dr. Otis states that the lowest fold on the right is the largest, and marks, in a general way, the lowest point of the recto-vesical fold of the peritoneum. He suggests that this be known as the *plica transversalis* of Kohlrausch. In conclusion, we have to thank Dr. Otis for two things: first, that he has omitted an historical chapter; and secondly, that he has given a full bibliography of the subject. T. D.

— The New York Academy of Medicine recommenced its meetings after the long vacation, on October 6th, with a discussion on "The Modern Method of Treating Syphilis," which was opened by Dr. P. A. Morrow, and participated in by Drs. E. B. Bronson, E. L. Keyes, R. W. Taylor, F. R. Sturgis, and others.

THE BOSTON

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TYPHOID FEVER.

As we are now passing through the season of the year when — whatever the cause or causes may be — typhoid fever ordinarily reaches its maximum prevalence, especially in large cities, the old subject offers its renewed periodical interest, and the latest expression of opinion of those who have given it their study attracts attention.

At the recent meeting of the New York State Medical Association, typhoid fever was assigned, in advance, as the special subject of discussion at one of the afternoon meetings.[1]

Discussion was directed to a consideration of the following debatable questions:

(1) Does the term typhoid fever properly include all the varieties described by observers; or are there other, still undifferentiated, continued fevers commonly grouped under this head?

(2) Is typhoid fever always the product of a specific contagium from a pre-existing case; or may it arise, *de novo*, from filth-fermentation?

(3) What part is played by micro-organic ferments in the causation of enteric fever?

(4) Is there a disease of the lower animals transmissible to man as typhoid fever?

(5) What media of causation or transmission of typhoid fever are to be guarded against in public or private sanitation?

(6) What are the complications and sequelæ properly associated with typhoid fever?

(7) What are the indications for treatment, and are relapses or untoward complications favored by some antipyretic measures?

The first speaker thought we were justified in speaking of a specific exanthematous fever, with local lesions in the intestinal glandular apparatus, apparently developed only from changes which took place in the excreta of a previous existing case, and which might, until a clearer idea of the pathology was obtained, be entitled enteric fever; that one attack, as a rule, af-

[1] See page 364 of the Journal.

forded immunity for the future; that adynamic fevers occur in isolated rural districts, where no connection with a previous case is discoverable; and that such fevers, resembling typhoid or enteric fever in the clinical history, could be traced to filth-fermentation.

Dr. E. G. Janeway thought that a form of continued fever not due to typhoid poison is encountered; he has found very few recorded cases in which it appeared that the disease had developed in entirely isolated surroundings, such as seemingly to preclude the possibility of contagion derived from another case, and in none, he thought, had the proof been altogether beyond question; whilst admitting a germ as the original cause of typhoid fever, he was willing to entertain the possibility of a spontaneous origin, but he could not admit that it had been proven beyond doubt. He rejects the term typho-malarial, very properly, as we think, preferring typhoid fever with malarial complication.

Dr. Biggs, of the Carnegie Laboratory, accepts Eberth's bacillus as a true bacillus of typhoid fever. Dr. Salmon, of the Government Service at Washington, thinks there is no reason to suppose that there is a specific disease in animals which produces a specific disease in man, attributable to this bacillus typhosus.

These are important points, some of which the last few years have tended to elucidate; whilst, in regard to others, we can only reason from analogy, and await an expansion of knowledge before having the means of reaching positive conclusions. The discussion, however, brought out very fairly the best views of the present day.

THE INDEX-CATALOGUE, VOLUME EIGHT.

The eighth volume of the Index-Catalogue of the Library of the Surgeon-General's office which has just appeared, carries the index to Medicine (Naval). It includes 13,405 author titles representing 5,307 volumes and 13,205 pamphlets. It also includes 12,642 subject titles of separate books and pamphlets, and 24,174 titles of articles in periodicals.

This interesting volume contains an index of the literature of stone from lithectasy through litholapaxy, litholibia, litholysis and lithontriptics to lithotrity.

Subjects classified under the head *Massachusetts*, are numerous, and contain reports from various public institutions and hospitals, charitable societies of all sorts, etc.

Two hundred and eighty-seven pages are occupied by subjects classified under the general head of *Medicine*, which is interrupted at *Naval Medicine*, by the close of the volume, so that the same general head must occupy a large space in the ninth volume when it appears. Abuses and errors of, and satires on Medicine, cover nearly four pages. Anecdotes, curiosities and facetiæ of medicine is a sub-head which covers even more space. Under this heading occurs Sir Kenelm Digby's "A late discourse made in a solomne assembly of nobles and learned men at Montpellier, in France — touching the cure of wounds by the powder of sympathy; with instructions how to make the said powder. Rendered faithfully out of French into English by R. White. 2d edition, London. 1658," and a seventh German edition of the same published at Ratzeburg, 1718; and Fludd, R. "Answer to M. Foster; or the squezing of Parson Foster's sponge, ordained by him for the wiping away of the weapon salve. Wherein the sponge-bearer's immodest carriage and behavior towards his brethren is detected: the bitter flames of his slanderous reports are, by the sharp vinegar of truth, corrected and quite extinguished, and lastly the virtuous validity of his sponge in wiping away of the weapon salve is crushed out and clean abolished, London, 1631;" "Life (The) and adventures of Don Bilioso de L'Estomac. Mathews (R.), A pretious pearl in the midst of a dunghil, being a true and faithful receipt of Mr. Richard Mathews pill. Presented to the world by Mrs. Anne Mathews amongst many sad complaints of wrongs done to her and the commonalty and her deceased husband. London, 1663."

Military medicine is presented under historical divisions so that we have the Napoleonic wars as a subsidiary heading which opens with a book by Beaufré, "A treatise on the effects and properties of cold; with a sketch, historical and medical, of the Russian Campaign;" and contains among other interesting material a description by Deputy Inspector-General Longmore, of a series of water-color drawings, executed by Sir Charles Bell, illustrative of wounds received at Waterloo.

The War of the Rebellion occupies of course considerable space. The previous wars of the United States made but small contributions to medical literature.

The present volume ought to mark the completion of the first half of the work, though we venture to predict that the growth of the library will extend the second half to more than eight volumes.

A NEW METHOD OF TREATING SEA SICKNESS.

Dr. W. Skinner has written to the *Semaine Médicale* his experience in the treatment of sea sickness.

He regards this affection "as the expression of certain purely functional or dynamic disturbances of the organism." "Some of the symptoms (the abnormal compressibility of the pulse, the oliguria, the chilliness of the extremities, the great pallor of the skin, and certain signs of cerebral and bulbar anæmia) indicate a general fall of the arterial blood pressure." The cause is to be found in paralysis of the vasomotors; "the starting point is probably a reflex inhibition coming from the sensorium (sight, hearing), or from the nerves of the abdominal organs." These organs, he says, are doubtless slightly contused and stretched by the rolling and pitching of the ship, and the terminal fibres of the sympathetic sensory nerves

are irritated thereby and provoke inhibition in the vaso-motor centres.

Acting on this theory, the writer prescribes certain vaso-motor stimulants, the chief of which are strychnia, atropia, and caffeine. The two first are given together, the latter separately. The caffeine is never given simultaneously with the other two medicaments.

He employs the hypodermic method, for obvious reasons. One milligramme of atropine and the same quantity of strychnine are dissolved in about one cubic centimeter (a hypodermic syringeful), of peppermint water and injected. His formula is as follows:

Sulphate Atrophine } Sulphate Strychnine }	55	0.01
Distilled Water of Peppermint	40.00	M.

One gramme of this solution contains one milligramme of each of the alkaloids. The solution ought to be frequently renewed. The quantity of strychnine may be increased to double, and that of atropine may be lessened, according to the indications of the case. The dose for children may be one-half or one-fourth that of adults. The reporter has seldom found it necessary or deemed it prudent to repeat the injection the same day, although in very bad cases one injection may be given in the morning and one in the evening.

In the case of an infant of two-and-a-half years, Dr. Skinner injected one-sixth of a gramme of the above solution; the relief was prompt and lasting. A boy of six years of age was cured of his sea sickness by one-quarter of a gramme of the solution!

In the great majority of cases instant and permanent relief from the nausea and vomiting is stated to follow one injection of the solution. Thirty-nine cases, in which this treatment proved efficacious, are reported!

Caffeine, also administered subcutaneously, is said to give excellent results. Its action is a little slower than that of the other alkaloids, and it is not quite so certain. The following formula is the one which is recommended:

Caffeine	4 grammes
Salicylate of Soda	3 grammes
Distilled water q. s., to make ten cubic centimetres,	M.

Each cubic centimeter (about a syringeful) contains forty centigrammes (about seven grains) of caffeine. Dr. Skinner reports several cases where, by means of this prescription, patients were enabled to make comfortable voyages.

Even the terrors of possible strychnine poisoning we do not doubt would seem trivial to some sufferers among those who go down to the sea in ships.

ANNUAL REPORT OF THE BOSTON CITY HOSPITAL.

THE twenty-third annual report of the trustees and Superintendent of the Boston City Hospital, is for the calendar year 1886, but for some unexplained reason made its appearance seven or eight months after the close of the year. It contains the usual items of interest and indicates, so far as such reports go, that the hospital is doing the work for which it is designed in a creditable and successful manner. The routine of such an institution, with its six hundred inmates, can scarcely be expected to proceed at all times without some degree of friction, but we believe the condition, the administration and the work of the Boston City Hospital will, in general, compare very favorably with those of any similar large metropolitan institution, wherever situated and with those of most hospitals under the control of private corporations, and we hope should changes arise, they may always be of a nature to improve upon rather than to threaten the continuance of such a record. If the weak points of the hospital were to be sought for, probably the insufficient accommodation for the out-patient department and the somewhat inadequate means for heating might justly be alluded to.

The total expenditures for the period included in this report were $177,306.27. The average net cost per patient each week was $7.52, against $7.64 last year and $8.39 two years ago. The income from paying patients was $32,407.57.

During the year 5,368 patients were treated in the wards, 13,614 as out-patients, making a total of 18,982 who received treatment in the various departments during the year. Of 6,086 persons examined for admission 1,040 were rejected, which is proportionately less than the previous year. Of the number rejected nearly one-third were nominal applications, they being subsequently treated as out-patients and obtaining such benefits as seemed suited to their cases. Nearly one-third were unsuitable, being either wholly incurable or the victims of intemperance, improvidence, or malingerers; of the remaining third only 62 were rejected for want of room out of 6,086 applications. Of the 19 daily average of applicants, 2 were rejected and 17 admitted. The largest number admitted in any one month was 497, in July, and the smallest, 352 in January.

The largest number of patients on any one day was 391, against 365 last year; the smallest was 311, against 265 last year. The daily average was 344, which is 29 more than last year, and 58 more than two years ago. The average length of stay was 23.3 days.

The number of patients admitted with accidental injuries was 881. Of all patients admitted 221 died within 48 hours after admission. The rate of mortality was 11 per cent. If from the total number of deaths we deduct those brought to the Hospital in a dying condition, the annual mortality is reduced from 11 to 7 per cent. The capacity of the wards remains the same as last year, 425 beds, and, with rare exceptions, has been found sufficient, except in the wards for contagious diseases.

In the Out-patient Departments 13,614 persons made 41,451 visits, which, distributed among the week-days of the year, made an average daily attendance of 133 out-patients. The largest attendance was 4,764 in the month of August, being a daily average of 183; the smallest was 2,246 in December, and the daily average was 83. In the nine departments for treating out-patients 17,460 visits, or 42 per cent. of the

whole, were surgical. Nine thousand nine hundred and thirty visits, or 21 per cent., were to the Eye Department, and the remaining 37 per cent. were distributed among the various other services.

The tent service in connection with the hospital, which affords fifty-six beds, was in active use and of the utmost advantage, especially for the most serious surgical cases, during the summer months. Its maintenance is comparatively inexpensive, and experience has amply demonstrated the advantages of treatment under these conditions; moreover, opportunity is thus afforded of vacating and renovating in turn the permanent wards.

Since the publication of this report we understand the tent service has been further extended, so that medical patients share in some degree in its benefits.

The training-school for nurses, at the close of its ninth year, continued to work very efficiently, and numbered seventy members. The new Nurses Home gives satisfaction.

The trustees state that the per capita cost of carrying on the Hospital has been brought to the lowest point, $7.50 a week, which is compatible with the maintenance of a high standard of service and preservation in a large metropolitan hospital devoted to acute diseases and surgery. The trustees also recommend to the Mayor and City Council a further appropriation of $16,000, in addition to a sum of $19,000, now on hand, to meet the necessities of the erection of a suitable out-patient building. There are, certainly, less desirable ways of spending the taxpayer's money than in providing for the decent care of the sick poor of the city.

MEDICAL NOTES.

—The Rev. Dr. Maynard, a well-known lecturer on European Travel, a passenger on the *Alesia*, the New-York-bound Italian ship, on which occurred the recent outbreak of cholera, writes, in the daily press, that the death of the first victim, a young Neapolitan, was announced to be due to heart disease. He says: "There was, at the time, no ground for supposing otherwise, and yet, in some unaccountable way, all on board became seized with a misgiving. The funeral of the Neapolitan was a sad and impressive sight, and, if it was possible, it increased the general dejection. Previous to this we were a gay company, the Italian emigrants particularly so. The discomforts attending an emigrant voyage seemed to have no effect upon their spirits. They chatted and laughed, and sang and danced, all day long, and well into the nights, which were made more pleasant by moonlight. But, from the time the Neapolitan died, not a sound of mirth was heard. The dancing was ended. Not a note was sung. I have no doubt that the condition of mind of these people had a good deal to do with the swift headway which the disease made after it began its work. I never saw such a complete surrender to misfortune as these people made. They made no struggle with fate, but sat or moved about listlessly and lifelessly, and seemed actually to invite death by their dread of it. Strange to say, the disease first struck the Neapolitans, and the proportion of the stricken among them was greater than among those from Palermo, who imparted the disease."

— Inquests have been held in England, during the past week (*British Medical Journal*, September 24th), on the bodies of three children, who, bitten by rabid dogs, died from hydrophobia. Two of the victims, aged respectively eight and nine years, were bitten, in the suburbs of Liverpool, on August 30th. The rabid animal not only attacked other dogs, but several persons were bitten by it, and it was only prevented from doing further mischief by the bravery of Mrs. Atkinson, who, in her successful efforts to protect three children, was herself badly bitten. She has gone to Paris to be treated at the Pasteur Institute. We have already referred to the death of the Kirkham child at Lancaster, which occurred almost immediately after his return from a treatment by Pasteur, whither, it seems, he was accompanied by two other children also bitten, but whether on the same date, we do not learn. Kirkham was bitten July 18th, started for Paris seven days later, remained there a month, had his first symptoms the day of his return, and died two days later.

— The *Medical Register*, of Philadelphia, having stated that the editor of the *Medical News* was the author of the dispatches sent from Washington to the *Philadelphia Press* in regard to the International Medical Congress, the managing editor of the *Press* issues a circular, in which he states that the editor of the *Medical News* was not the author of the dispatches in question, and that he was not in any way responsible for them. They were sent from Washington by two regular correspondents of the *Press*, and he finds, upon inquiry, that the identity of the writers was absolutely unknown to Dr. Hays, who, he adds, is at the present moment quite unknown to him, save by name.

NEW YORK.

— Fifteen of the passengers of the *Alesia* have died of cholera since the vessel arrived, and still there are nine cases of the disease in the Swinburne Island hospital; all of whom, however, are said to be doing well.

— After three trials Dr. C. Fayette Taylor has won a verdict of $12,000 against the elevated railway for damage to his private hospital by the road, which runs on two sides of it.

— Mr. Cornelius Vanderbilt has added to his other benefactions a handsome and completely fitted up building, situated in the immediate vicinity of the Grand Central Rajlway Depot, for the accommodation and enjoyment of railroad men. On the first floor are a library containing six thousand volumes, a reading-room, social room, and bath-rooms. On the second floor is a large hall for lectures and entertainments. On the third floor is the restaurant and recreation room, completely fitted up with lounges, and here the men can always obtain hot coffee free of charge. On the top floor is a large room fitted up

with brass bedsteads for the use of railroad men staying in the city over night. The building was formally opened on Monday evening, October 3d, and on this occasion the principal address was made by Mr. Chauncy M. Depew, who, in the course of his remarks, said: "It has been rightly claimed by our Christianity that it infinitely excels all religions and civilizations in humanity. Until Christianity came you never found men looking after the weak and helpless, the sick, aged and infirm. It has created hospitals, asylums, schools. It is the glorious Christian spirit which expands civilization. When the money of the many has gone into the corporation, when the many represented in that corporation cannot know those who work for them, and those who work for the corporation cannot know or meet those by whom they are employed, the strain of relations becomes so tense that, unless some avenue of mutual approach be found, we are upon the brink of those social revolutions, those labor problems, those distinctions of class, that are at once the terror and the sum to be done by the sociologist, the preacher, and the statesman of to-day. This building, with its appointments and completeness, stands now as one of the many signs pointing out how the chasm, which never shall be bloody, can be bridged, and we, of all conditions of life, recognize in our common humanity, all our responsibilities to one another."

— The Board of Education decided at its last meeting to give Public School Trustees the option of testing manual training. The subject has been a long time under consideration and the Committee on Course of Study and School Books, gave the matter careful and deliberate investigation, the result of which was embodied in a report submitted last June, and discussed at meetings since then. The initiation is provided for in the following way: On application of any Board of Trustees to the Committee to introduce manual training into any school, the committee may authorize the substitution in such school of the course of study and provisions prepared by them in place of the usual course of studies, and the proper committees shall authorize the expenditures necessary therefor, provided that, until further action is taken by the Board, such course shall not be introduced into more than six male and six female grammar schools, and the primary departments and schools connected with them. A mixed grammar school shall be considered, as to this provision, as one male and one female grammar school. In no case are the studies of German and French to be interfered with. The test of the plan will, it is estimated, cost $13,000.

Miscellany.

THE DEAD FAILURE, LIMITED.

Mr. Edward Garraway, in the *Edinburgh Medical Journal* for August, in an amusing, but most interesting paper, sets forth his intention to establish a new medical journal, for which it seems to us the sole remaining unoccupied niche in medical journalism remains open. He says: "The title of my venture would be 'The Dead Failure, Limited.' Ignoring the maxim that 'Dead men tell no tales,' my book would be made up of nothing but dead men's tales.

"The journals of the day teem with the triumphs of medicine and the exploits of surgery. Everybody records his successes and narrates his victories, till at length one begins to wonder how it comes about that anybody ever dies. People, nevertheless, do die, apparently from sheer perversity, or, as our transatlantic brethren might more pertinently put it, from 'pure cussedness.' Certainly, if we believe, it is no more the fault of the medicine men of the present generation than it was in the days of the celebrated Dr. I. Lettsom, who, you may remember, in allusion to his unhappy patients, is said to have written:

> 'I physics, bleeds, and sweats 'em;
> If after that they chance to die,
> It's not my fault — I. Lettsom.'

Now 'The Dead Failure, Limited,' is intended to search out 'the reason why.' It will have nothing to do with cures and recoveries. Defeats and disappointments, whether brought about by negligences and ignorances, sins of omission or commission, errors in judgment, or deficiency in tact — no matter from what cause — unsuccessful cases will alone be admitted. Ah! what rocks, what shoals, what quicksands we might avoid, if every man would raise a beacon where he has suffered shipwreck, instead of glorifying himself, as is his wont, when he has ridden through the storm, or favorable gales have wafted him into port! One prominent and valuable feature of the contributions would be their emanating from the Nestors only of our profession, the most diligent inquiries amongst young practitioners serving but to show that *they* never *do* meet with failures, and never make mistakes."

Following this are some "specimen pages" from such a journal, describing, for instance, errors in the diagnosis of eruptive diseases, especially small-pox.

Of the other instances of mistaken diagnoses we have room for but one, namely stone in the bladder.

"Who," asks our author, "cannot diagnosticate stone in the bladder? Who does not know the characteristic 'clink'? But does everybody know that the clink may be there without the stone? A young lady got retention of the urine. Of course in young ladies the element hysteria has always to be taken into account, and one should be slow to introduce the catheter for the first time, for who can say where or when such a proceeding may end. All other measures failing the patient must needs be relieved. On passing a silver catheter, a click was heard and a concussion felt as its point entered the bladder. Not hastily convinced, I waited till the next day, when the retention recurring, I audibly and sensibly struck the calculus. The young lady's friends were apprised of the nature of the malady and of my hope that without any operation the stone might be removed. Dilatation of the urethra was gradually effected until the forefinger could be swept over the whole internal surface of the bladder, and behold that viscus was empty. Then, and not till then, did it occur to me how often, in turning off the water at my surgery tap, I had heard and felt precisely the same concussion. The conditions were analogous. As the catheter entered the full bladder, the urine came down the tube with a rush, giving a

shock as it impinged upon the head of the stillette at the other extremity. Some balm was dropped upon my wounded pride by afterwards hearing from my friend, Professor Lund of Manchester, that he had been similarly deceived, and went so far as boldly to cut into the bladder, and more boldly and bravely still, to publish his mistake in his valuable Hunterian lectures of the following year.

"Well, now for the sequel, irrelevant, perhaps, but amusing and edifying withal. Incontinence, you will say, resulted from my uncalled-for proceeding. Nothing of the sort. That young lady and I and the catheter kept company for a year and a half; at first twice a day, after a time once, then every other day, every third day, and so on, till at the end of sixteen months I managed to get her sent away from home, retention at that time recurring but once a week; and it was understood that every Tuesday morning I should travel eighteen miles by rail and three across country to the relief of my patient, take luncheon, and return.

"What confounded humbug! some will exclaim. Well, it was confounded humbug, but assuredly not of my creating. Very early in the case I protested, at length became obdurate, refused to pass the instrument, leaving the unhappy girl for two days and two nights. At the end of this period she plunged into a convulsion, during which the urine escaped, and from which she emerged with paralysis of the right arm — hysterical, of course — but paralysis nevertheless. The friends scarcely forgave my inhumanity, and the catheter routine went on as before."

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 1, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	677	277	23.55	15.90	9.30	1.95	7.20
Philadelphia	993,801	356	139	17.36	12.04	4.20	4.20	7.00
Brooklyn	745,108	333	145	20.70	12.30	5.40	.60	9.60
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	153	61	18.55	13.00	4.50	1.30	6.05
Boston	400,000	176	57	25.65	14.25	6.30	4.05	4.50
New Orleans	242,750	115	32	22.62	14.75	14.79	—	3.48
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	103	41	16.49	16.49	4.85	4.85	2.91
Pittsburgh	210,000	82	34	23.18	12.20	6.10	9.76	6.10
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	62	30	30.59	4.83	9.66	6.44	4.83
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	23	6	30.45	17.40	8.90	13.05	—
Charleston	60,145	33	9	9.09	—	3.03	3.03	3.03
Portland	40,000	17	2	11.76	17.64	5.88	5.88	—
Worcester	68,383	17	10	35.28	23.52	11.76	5.88	11.76
Lowell	64,051	21	4	14.28	4.76	9.52	—	4.76
Cambridge	59,660	26	14	15.40	15.40	3.85	—	7.70
Fall River	56,863	33	13	30.30	15.15	12.12	3.03	—
Lynn	45,861	20	—	25.00	5.00	—	10.00	—
Lawrence	38,825	18	6	10.11	22.22	5.55	5.55	—
Springfield	37,577	12	2	25.00	25.00	8.33	8.33	8.33
New Bedford	33,393	13	4	46.14	7.69	7.69	7.69	30.76
Somerville	29,992	13	3	30.76	15.38	30.76	—	—
Salem	28,084	11	5	36.36	18.18	18.18	9.09	9.09
Holyoke	27,894	11	4	27.27	—	—	18.18	—
Chelsea	25,709	10	5	30.00	20.00	20.00	10.00	—
Taunton	23,674	8	0	—	—	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	3	0	—	66.66	—	—	—
Brockton	20,783	6	1	16.66	33.33	—	16.66	—
Newton	19,759	4	1	25.00	25.00	25.00	—	—
Malden	16,407	1	0	—	—	—	—	—
Fitchburg	15,375	9	4	11.11	11.11	—	—	—
Waltham	14,609	3	0	—	—	—	—	—
Newburyport	13,716	4	0	25.00	—	—	25.00	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,373: under five years of age 912; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 510, consumption 422, acute lung diseases 198, diarrhœal diseases 166, diphtheria and croup 151, typhoid fever 76, malarial fevers 46, scarlet fever 29, cerebro-spinal meningitis 17, measles four, erysipelas three, small-pox (New York) one. From malarial fever, New York 15, New Orleans 11, Brooklyn eight, Baltimore four, District of Columbia three, Milwaukee and Nashville two each. From scarlet fever, Brooklyn eight, New York and Boston seven each, Baltimore two, Philadelphia, Milwaukee, Cambridge, Fall River, and Fitchburg, one each. From cerebro-spinal meningitis, New York and Fall River four each, Lynn three, Philadelphia, Boston, District of Columbia, Pittsburgh, Worcester and Holyoke one each. From measles, New York three, Philadelphia one. From erysipelas, Baltimore two, Brooklyn one.

In the 28 cities and larger towns of Massachusetts with an estimated population of 1,131,336, the total death-rate for the week was 19.26 against 23.31 and 22.04 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending September 17th, the death-rate was 18.0. Deaths reported 3,186: infants under one year of age 971; acute lung diseases (London) 142, diarrhœa 296, scarlet fever 116, whooping-cough 84, fever 48, diphtheria 37, measles 34, small-pox (Sheffield nine, Liverpool and Cardiff one each) 11.

The death-rates ranged from 15.0 in Derby to 27.0 in Preston; Birmingham 18.5; Bradford 23.0; Hull 17.0; Leeds 17.8; Leicester 17.5; Liverpool 18.3; London 15.7; Manchester 25.8; Newcastle-on-Tyne 21.6; Nottingham 18.4; Sheffield 20.1; Sunderland 22.1.

In Edinburgh 16.3; Glasgow 19.2; Dublin 34.3.

The meteorological record for the week ending October 1, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Oct. 1, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, . . 25	29.98	44.0	57.0	46.0	75.0	50.0	66.0	64.0	W.	W.	W.	10	18	6	C.	C.	C.		
Monday, . . 26	30.01	43.0	58.0	42.0	70.0	48.0	67.0	62.0	W.	W.	S.W.	10	12	6	S.	S.	O.		
Tuesday, . . 27	30.10	46.0	56.0	40.0	65.0	73.0	73.0	70.0	W.	W.	S.W.	12	8	6	S.	S.	S.		
Wednes,, . 28	30.15	52.0	67.0	50.0	78.0	55.0	80.0	71.0	W.	W.	W.	4	10	11	O.	O.	C.		
Thursday, 29	30.10	57.0	62.0	55.0	86.0	100.0	100.0	95.0	S.W.	E.	0	7	7	0	O.	R.	F.		
Friday, . . . 30	30 13	55.0	61.0	55.0	91.0	94.0	67.0	94.0	N.	E.	E.	5	13	6	F.	F.	F.		
Saturday, . 1	29.98	57.0	60.0	54.0	100.0	100.0	100.0	100.0	S.E.	E.	0	6	13	0	R.	R.	R.	33	70
Mean, the Week.			60.0	49.0															

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 1, 1887, TO OCTOBER 7, 1887.

CARTER, E. C., captain and assistant surgeon. Leave of absence further extended fifteen days. S. O. 231, A. G. O., October 4, 1887.

CABELL, J. M., first lieutenant and assistant surgeon. Relieved from further duty in connection with the competition of "Team of Distinguished Marksmen," at Bellevue Rifle Range, to take effect October 1st, and will return to his station, Fort Omaha, Neb. S. O. 95, Department of Platte, September 27, 1887.

CABELL, J. M., first lieutenant and assistant surgeon. Will be relieved from duty at Fort Omaha, assigned to temporary duty with Battalion 6th Infantry in the field, October 1, 1887.

BORDEN, W. C., first lieutenant and assistant surgeon. Will be relieved by officer commanding troops, upon arrival of Assistant Surgeon Cabell, and will return to his station at Fort Douglas, Utah. S. O. 98, Department of Platte, October 1, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 8, 1887.

MARTIN, WM., assistant surgeon. Detached from Hospital Norfolk, and granted sixty days' leave.

BATES, N. L., medical inspector. Detached from Naval Dispensary, and to Examining and Retiring Board.

PRICE, A. F., surgeon. Ordered to the Naval Dispensary, Washington, D. C.

WAGGENER, J. R., surgeon. Ordered to the Receiving Ship "Minnesota."

FITZSIMMONS, PAUL, surgeon. Detached from "Minnesota," and to "Morion," 15th October.

ATLEE, LOUIS W., assistant surgeon. Detached from Receiving Ship "Vermont," and to the "Morion," 15th October.

RUSH, W. H., passed assistant surgeon. Detached from coast survey Steamer "Blake," and to the Navy Yard, New York.

BERRYHILL, T. A., assistant surgeon. Detached from "Minnesota," and to the "Blake."

DRENNAN, M. C., surgeon. Detached from Naval Academy, and wait orders.

SOCIETY NOTICE.

FIFTEENTH ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.—The American Public Health Association will meet at Memphis, Tenn., Tuesday, November 8th, at 10 o'clock, A.M., and continue four days. The meetings will be held in Young Men's Hebrew Hall. The Executive Committee have selected the following topics for consideration at said meeting: I. "The Pollution of Water-Supplies." II. "The Disposal of Refuse Matter of Cities." III. "The Disposal of Refuse Matter of Villages, Summer Resorts, and Isolated Tenements." IV. "Animal Diseases Dangerous to Man."

DEATHS.

Died in West Roxbury, Mass., October 3, 1887, George Otis Allen, M.D., M.M.S.S., aged forty-eight years.

Died in Boston, October 8, 1887, David McCaire Parker, M.D., M.M.S.S.

OBITUARY.

GEORGE OTIS ALLEN, M.D.

Dr. George Otis Allen died suddenly at his residence in West Roxbury, October 4th. He was born at Norton, October 25, 1838. He spent one year in the medical department of Bowdoin College, Brunswick, Me., and then became a member of the Harvard Medical School. Soon after the breaking out of the civil war he received the appointment of medical cadet in the army, and spent a year in Louisville, Ky., in that capacity. He then returned to the Harvard Medical School to finish his studies. After being graduated he was appointed volunteer assistant surgeon in the navy in the Mississippi squadron. At the close of the war he was for some time in the Naval Hospital, Chelsea, and was also on the "Franklin," the flagship of the European squadron, for three years. On his return to this country he was again stationed at the Naval Hospital, Chelsea. He resigned his position in the navy, 1872, to enter into private practice, and had lived in West Roxbury since 1874. He had been a member of the Massachusetts Medical Society since 1866. .

RICHARD QUAIN, M.D., F.R.C.S.

Dr. Richard Quain, the editor of "Quain's Dictionary of Medicine," and well known as a physician and writer on medical subjects, died in London, England, September 16, 1887. He was born in Mallow, in 1816, and became an articled pupil to a surgeon-apothecary at Limerick. At the age of twenty he went to London and entered University College. Distinguishing himself in the classes, he was appointed house-surgeon to the College Hospital, and subsequently house physician to the same institution. He was elected a Fellow of University College in 1843, a member of the Royal College of Physicians in 1846, and a Fellow of that College in 1851. His life was full of professional cares and honors. He was one of the founders of the Pathological Society and was a member of a great number of learned societies. The "dictionary," above referred to, was published in 1882, and is the standard work of its kind in the English language. Among his many other writings was a monograph to the Royal Medico-Chirurgical Society, in which the true nature of fatty degeneration, especially in connection with the walls of the heart, was first described.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Luzerne County Medical Society for the Year ending March, 1887.

University of Pennsylvania. Veterinary Department, Catalogue and Announcement, 1887-88.

Surgical Relations of the Ileo-Cæcal Region. By J. McF. Gaston, M.D., of Atlanta, Ga. 1886. (Reprint.)

Membranous Enteritis. Fiske Fund Prize Dissertation, No. XXXVII. By James B. Field, M.D., of Lowell, Mass. 1887.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Eighty-ninth Annual Session held at Baltimore, Md., April, 1887.

Études Cliniques sur Le Morrhuol (Extrait de l'Huile de Foie de Morue brune.) Par E. Chazeaud, Docteur en Médecine de la Faculté de Paris. Paris, 1887.

The Delusion of Tonics. By George H. Taylor, M.D., Author of "Health by Exercise," "Health for Women," "Pelvic and Hernial Therapeutics," etc. New York: John B. Alden. 1887.

Original Articles.

THE IMPORTANCE OF RE-EXAMINATIONS AS TO THE ACCURACY OF VISION OF RAILROAD EMPLOYEES AND MARINERS.

BY HENRY W. WILLIAMS, A.M., M.D.,
Professor of Ophthalmology in Harvard University.

After the enactment of the law requiring that tests should be made as to the accuracy of perception of colors, and as to the sharpness of vision of mariners and of railroad men, who are required to readily distinguish signals, obstructions, or other intimations of danger, the railroad officials of Massachusetts manifested a willingness to at once comply with the demands of the Statute, so far as a first examination of their employees was concerned, although the managers of, at least, one road, seem to have deemed it sufficient if danger-signal flags or lanterns could be distinguished from those denoting safety, when displayed, one after another, at certain distances — a test which all experts know to be fallacious, as it *does not* prove an ability to distinguish signals when unexpectedly shown, or when they are soiled, or faded, or dimmed, since, especially in these circumstances, those who are color-blind readily mistake one for the other.

These Statutory examinations give a result similar to those obtained on a very large scale in this and other countries, showing that, as an average, about four per cent. of males have dangerously imperfect ability to distinguish red from green, the colors of most frequent use in signalling. They also demonstrated what is of yet more grave importance, that, in a still larger proportion, defects of visual acuteness existed in men who were supposed by others, and often by themselves, to have good sight.

These demonstrated facts, and the occurrence of such instances as the running over and killing of a brakeman holding a red danger-signal on the track in front of his train, by an engineer who was afterwards found to be color-blind, would seem to be sufficient to satisfy the observant officers of railroads, and owners of ships, of the necessity of the required tests for all entering their service who were to fill positions where prompt recognition of signals, and quick and accurate perception of objects, is required; and this not only as an imperative duty towards the persons whom they undertake to transport in safety, but also as being necessary as a safeguard for their property, in avoiding the enormous costs of accidents, and the exemplary damages which would be awarded where it was proved in court that an accident had resulted from the color-blindness or defective sight of an employee.

As regards the men themselves, their rejection, if found to be visually defective, cannot be reckoned as a hardship, since it is especially for their advantage that they should turn to other avocations, rather than assume positions which imperil their own safety, as well as the lives and property of others; or, at least, that they should be assigned to duties for which their natural or acquired visual defects do not disqualify them.

The importance of the elimination of incapacitated men from the marine and railroad service, as shown and insisted on, especially, by Professor Holmgren, of Sweden, and Drs. Thomson, of Philadelphia, and Jeffries, of Boston, has lately been brought prominently before the public by a riotous resistance to examination, as to their visual capacity, by the 42,000 employees of one of the large American railroad corporations; which, for a time, threatened a total suspension of traffic upon this road. As regards this event, Dr. William Thomson, who acted as an expert in deciding the controversy, says (*Medical News*, August 13th): "The conflict is nearly over, since demonstrations of the optical defect in engineers, made before a committee appointed by the employees, have satisfied them of the propriety of the testing, and that the safety of the public demands the removal of all color-blind persons from positions where their optical defect might be the cause of distressing accidents. In the recent demonstration, I was able, at my office, to show that an engine-man declared a red danger-signal, made by placing red glass in front of a large gas-light, at the distance of two feet away, to be a green glass. He was not only unable to distinguish a red from a green flag within six feet, but he failed to classify the flags, white, red, green, and blue, properly, even when allowed to take them in his own hands." Instances such as these cited are constantly met with by ophthalmological experts.

Attention has also lately been called to this matter by articles in some of our newspapers, referring to the disturbances above mentioned; giving certain statistics of the results of examinations on the Pennsylvania Railroad, which seemed to be misleading, as being inconsistent with those previously obtained on this road, and with the usual average of imperfect color-perception and of visual defects, as observed in various European nationalities.

These statistics were as follows:

Total number examined on lines east of Erie, . .	25,158
Color blind, ...	481
Defective vision	661
Defective hearing	158

In reply to questions regarding these tables, Dr. Thomson writes to me as follows:

"In 1884, the examinations of men who had to do with signals amounted to about 13,000. When the total increases to 25,000, and comprises many men coming into the service, the percentage must be smaller. The apparently small percentage of color-blind in this table may be ascribed to the non-application of men who know their deficiency, and to the fact that men in the service knowing their defect, would leave the road before examination, and thus escape detection, and be enabled to gain employment on other roads, where no examinations are required. New men would present a small ratio of those below the standard, since men conscious of color-blindness or poor sight would not apply."

There is reason to believe that, even in Massachusetts, the provision of the Statute which calls for re-examination of employees at stated intervals has been but negligently fulfilled. Admitting that those once found to have good power of distinguishing colors seldom lose this ability, and scarcely require as frequent re-examinations, the same is not true as to other visual deficiencies. Sharpness of sight is not a fixed quantity, and lessening of visual acuteness may occur at any time, and from many and various causes, in those whose sight had been found to be perfect at a former examination. Normal changes of visual power occur at different ages, and, although these, as well as some abnormal conditions of the refraction and accommodation of the eye, may, perhaps, be remedied by the use of glasses, yet the necessity of wearing glasses

is, in itself, an important disability, inasmuch as spectacle-glasses are liable, especially in cold weather, to be suddenly obscured by a puff of steam or smoke, or by fog in the atmosphere, and the wearer is thus rendered *pro tempore*, and perhaps, again and again within the space of a few minutes, virtually blind, until the glasses can be removed and wiped. But vision may also be gravely impaired, at first gradually, and perhaps, nearly imperceptibly to the person himself, by the development of cataract, of Bright's disease, of various slowly-advancing brain lesions, etc., as well as by numerous forms of disease of the internal parts of the eyes not discoverable by external inspection. These constitute a grave danger, especially as the afflicted person, even if conscious that he sees less distinctly, clings to the hope of an improvement, and is reluctant to give up his means of support.

Doubtless the omission to comply fully with legal requirements, and the neglect of self evidently necessary precautions, has arisen from inattention in a matter which is even yet a comparatively new subject to the railroad authorities; but the frequent revelation of cases of greatly depreciated sight in employees whose vision had been found to be good no longer ago than two years, proves the need of vigilance to *discover* these defects by re-examination, before they become a source of disaster. If scrupulous exactness should ever be insisted on, it should be in the use of every precaution where the safety of great numbers, or of vast property, may depend on the clear vision of one man.

What can be said of the false economy and culpable negligence existing in some States, where, because no Statute compels examinations as to the perfection of sight and hearing of employees, the managers of railroads feel justified in dispensing with them. They thus incur the risk, not only of having the usual average of about four per cent. of color-blindness, and ten per cent. of imperfect sight, among their employees, but also of making their roads asylums for many discarded men, who have been elsewhere tested and found wanting in the essential qualifications of good vision.

A not unimportant element of this question is the ease with which complete security can be obtained. As stated by Dr. Thomson: "The officers needed a system that could be employed on each division of the road, quietly and confidentially, and at the convenience of the men, without compelling them to lose much time. These and other considerations led me to the invention of an instrument for an examination of the color-sense, which could be used by any intelligent, instructed official, and a record of the examination permanently kept for the information of the officers, and as a guide for any expert to whom the road might wish to refer any doubtful cases." This system has been in use for more than five years on the Pennsylvania Railroad, with its now 7,000 miles of track, and over 100,000 employees.

— A case is recorded by Dr. C. R. Eckhardt of carcinoma uteri (diagnosis established by histological examination) in a virgin, aged nineteen. It is said that thus far only three cases have been recorded of this disease occurring before the age of twenty. The growth was removed with a galvano-cautery snare by Fränkel.

A CASE OF ACUTE RED ATROPHY OF THE LIVER.[1]

BY A. F. HOLT, M.D., OF CAMBRIDGE.

At one o'clock in the morning of November 13th, Mrs. M. came to the police station to make a complaint against her husband for beating her. She claimed that he had choked her until she was unconscious, that while he held her on the floor, he jumped on her chest on his knees, and it was only with the greatest difficulty that she escaped from him and ran to the police station, a half-mile or more away, clad only in her night-dress and stockings. The husband was arrested, and at the trial, the following morning, the wife testified that her husband had only held his hand over her mouth. The wife, after the assault, went to the house of her mother, instead of returning to her own home, and there she remained until her death, nine days after. For the next four days, she was about the house and the street, and a part of the time, at least, was under the influence of liquor. During these days, she called on Dr. Church once for examination as to the injuries which she had received from the assault by her husband. At this interview, she complained of soreness in the right chest. Physical examination showed nothing, except a few scratches and a small black-and-blue spot near the sternum. Her pulse and temperature were normal.

The afternoon of the 19th, Mrs. M. was seen by Dr. Bryant, the city physician, at the office of the Overseers of the Poor, and from him I obtained the following history: Age, twenty-nine years; there is a black-and-blue spot about the left eye, whites of both eyes jaundiced, and the skin of the chest and abdomen is yellow. She is constipated, has a slight cough, and complains of great weakness. One gramme of calomel was ordered, to be taken at once.

November 21st. Saw her at her mother's house at 10 o'clock, A. M. She was in bed, and very restless. Hands and feet cold, and the pulse 108; complained of constant nausea, and had vomited a great many times since last seen. Liver-dulness about normal; bowels moved slightly yesterday. One gramme of calomel, to be given in two doses; mustard to stomach, and ice-pills.

4 o'clock, P. M. Has not vomited since morning; has not spoken since one o'clock. Bowels have not moved. She is unconscious, but very restless. Brandy and milk every hour, and an injection of warm water.

At 7 o'clock, P. M., saw the patient, with Dr. Church. She is still very restless. No discharge from the bowels. Temperature slightly subnormal, pupils respond to light, slight, crepitant râles at the base of both lungs, and *the liver-dulness has disappeared.* Pulse rapid and feeble; has passed no urine for twenty hours. Hands and feet and end of nose cold; skin everywhere deeply jaundiced. The patient continued to fail, and died at one o'clock the following morning, or about eight hours after the doctor last saw her. The claim was at once made that death was the result of injuries received at the hands of her husband, and he was arrested to await an investigation. The autopsy was made thirty hours after death, and the following is the record:

Body fairly well nourished; pupils a little dilated. There is a black-and-blue spot under the left eye, but

[1] Read at a meeting the Boston Society for Medical Observation, May 2, 1887.

no other external marks of violence. Skin everywhere of a bright-yellow color. On opening the great cavities, the tissues are seen to be of the same yellow color. The stomach is greatly dilated, and it and the small intestine are distended with gas. On removing the sternum, on its upper third there is seen a large, red spot, caused by the infiltration of blood generally. The tissues in the anterior mediastinal space are also infiltrated with blood. The pericardium is normal in appearance. The right side of the heart is moderately full of blood. There are a number of hæmorrhagic spots beneath the pericardium, along the line of junction of the right auricle and the right ventricle. Two or three of these are of the size of the finger-nail, the others are smaller. Section through one of these spots shows the clot to be of a yellowish color, firm, and nearly the third of an inch thick. The right auricular-ventricular opening admits three fingers. The left side contains a small, black clot. The mitral opening admits two fingers. The valves of the organ are healthy, and the cavities are of a normal size, and the walls of normal thickness. The muscular substance is of a yellow color, and the cut surface appears opaque. Microscopic examination shows this tissue to be very granular, and also, that it has nearly lost its striated appearance.

The left lung is slightly adherent at the top. It is very heavy, and its blood-vessels are full of black blood. A quantity of frothy, bloody fluid can be squeezed from the cut surface. The bronchi are also partly filled with frothy fluid. The right lung is like the left, except it is not adherent, and a frothy fluid flows from the cut surface. In the pleura, covering the chest along the spine from the second to the sixth ribs, on the right side, are a number of black spots, some of which are more than an inch square, but irregular in outline. Section shows these to be due to an effusion of black blood beneath the pleura. Also, beneath the pleura, covering the diaphragm of the right side, there are a number of spots of the same character. The pleura of the left side is everywhere of the same color, and clear and glistening. The tissues about the trachea are infiltrated with blood. Its mucous surface is smeared over with a red, frothy mucus. The mucous membrane of the œsophagus is of a pale, grayish color.

Spleen large, of a uniform bluish color, and a little soft. Left kidney of a bluish color, capsule strips off readily, the cortical portion a little thicker and a little paler than normal. Right kidney like the left, except the pelvis is a little dilated, and the loose tissues about it are infiltrated with blood. Bladder contains about eight ounces of urine. Vagina rather large, and its walls are flabby. The mucous surface is a pale, reddish color.

The os uteri is irregular in outline, and it has two deep fissures, one extending wholly across the neck, the other part way. These are covered with mucous membrane. The cavity of the uterus is two-and-one-half inches deep, and this organ, as well as the ovaries and tubules, are healthy.

The large intestine contains a few small, fæcal masses. The liver is found lying in the back part of the abdomen. No blood flows from the cut vessels. On removal, it is seen to be about half the usual size, and very flabby. It is of a uniform, dark-red color. The cut surface is of a lighter red, and after a few moments' exposure, it has a glazed appearance. None of its structure can be made out with the unaided eye. It looks very soft, but it is fairly firm to the touch. Microscopical examination shows the liver-cells destroyed, and replaced by minute, shining granules and molecular detritus.

The gall-bladder contains an ounce of dark, thick bile. The stomach is distended with gas, and contains about three ounces of fluid, in which are some solid pieces of food. Its tissues are of a grayish hue. The duodenum and small intestine contain a quantity of light, slate-colored matter. The portal vein and tissues about it are normal. The pancreas is of a uniform, grayish-white color, of the usual size and appearance. The dura is of normal thickness, and clear and glistening on its inner surface. The pia is transparent. Its vessels, as well as those of the surface of the brain, are moderately full of blood. On removing the brain, there is a quantity of bloody fluid left in the basis crani. Vessels at the base of the brain moderately full of blood, and there is a soft, grayish clot in the basilar artery. This is not adherent, and is easily removed. Section of the brain and great ganglia shows nothing abnormal.

This case is interesting for the reason that it is a typical one, both in its history and pathological appearances as revealed at the autopsy, of a fatal disease and also a very rare one, as only about two hundred cases of acute yellow atrophy have been observed, as the red atrophy it supposed to be a later stage of the yellow, of course a very much less number of this form of the malady have been studied. The cause of this fatal disease is not well determined. Most of the authors the reader has consulted, give mental emotion and the shock that comes as a result of such a disturbance, as one of the causes, while others are inclined to the belief that it should be classed as an acute infectious disease; in support of this theory Klebs claims that he has found micrococci in the hepatic veins; this view is also sustained by the pathological changes that take place in other organs, changes such as are found in most acute infectious diseases. This question of cause became a very pertinent one in the case just related. At the judicial hearing in the case of the husband the following question was asked the medical examiner: If great mental emotion is one of the usual causes of this disease, may not the shock sustained by this woman, resulting from fear and the severe exposure to cold and wet immediately after the assault have been its cause in this case? The opinion given was: That this was not the cause of the disease, and the reasons for this opinion were, that the mental emotion referred to by authors as the cause of this malady, if in fact it is ever the cause of it, were the severe forms of grief or fear that produce well-marked effects, such as coldness of the surface, feeble pulse, etc., and this woman at no time showed any such symptoms of shock. There was some question by the physician who saw the autopsy, as to whether the hæmorrhages about the trachea and beneath the pleura, were not the result of mechanical violence. I am convinced from their extensive distribution as well as their general appearance they were not, but were the result of the disease of the liver. This left the cause, as I have said, a vital one, for if the fatal illness was the result of the brutal treatment of the husband, then he must stand accused of murder; if not, that was the end of the case legally. The pathology of acute atrophy of

the liver, all authors agree, is a rapid fatty degeneration of the liver cells, but whether the so-called red atrophy is a later stage of the yellow atrophy can I think be fairly questioned, and for these reasons: The cases of red atrophy are, I believe, the most acute, and run the most rapid course. In this case Dr. Bryant saw the patient the afternoon of November 19th, and she died the night of the 21st. In the cases of yellow atrophy when the liver has been reduced to one-half or even one-third of its normal size it still preserves its yellow color or at most only presents red patches. It would seem the more probable that the pathological changes in both the red and yellow atrophy are the same, but in the former the disease is the more active and severe, overwhelming the organ at once and destroying its function, while in the yellow atrophy the secretion of bile is not wholly stopped at once, but goes on for a time, and as it is imprisoned in the smaller passages by the swelling, it is reabsorbed and thus the organ is stained. The marvellous shrinking that takes place in the later stage of the disease is undoubtedly due in part to the absorption of the fatty matter, and in part to the absorption of water in the parts of the organ where the circulation has ceased.

INJURIES OF AND OPERATIONS UPON THE KIDNEY.[1]

BY EDWARD O. OTIS, M.D.

THE majority of the nephrectomies have been done through the loin, the extra-peritoneal operation. It is generally the ovariotomists and gynæcologists who favor the abdominal method. For instance, Knowsley Thornton maintains that the abdominal incision does not add much to the risk of the patient, if the surgeon will make his abdominal exploration thoroughly aseptic. Mr. Lawson Tait [28] says he does not think it matters much whether the organ be attacked by what is called the abdominal method, or the lumbar. The general surgeon, however, favors the extra-peritoneal operation, and thus far, the statistics show a much less mortality. The advantages of the abdominal operation are a larger field of operation, with all that means, which is, of course, of immense importance, and an examination of the diseased organ and its relations, as well as the other kidney, if possible, if the conditions of the case render this important.

I will briefly sketch the technique of the lumbar operation: The latero-abdominal position is to be chosen, and a cushion or pillow placed under the flank, so as to make prominent the field of operation. Simon's original incision (Fig. 1, A B), largely in use now, was made along the outer edge of the quadratus lumborum muscle, two-and-a-half to three inches from the spinous processes of the lumbar vertebræ, extending from the superior border of the eleventh rib to the middle of the space between the twelfth rib and the iliac crest. Many surgeons [29] have modified this: Bruns, Czerny, Clement Lucas, Morris, Kleinenberger, Polaillon, and others. Vertical, oblique, and curved incisions have all been made. Weir says a vertical incision (Fig. 1, C D) from just below the twelfth rib to the crest of the ilium, about three inches from the spine, affords ample room for a nephrectomy of a normal kidney. The incision which would seem to be the most satisfactory, as affording the most room, is the inverted L one thus, Γ (Fig. 2, E F), which is made as follows:

First, an oblique incision, like that for colotomy, within about one-half an inch of the last rib, and parallel to it, is made, about four-and-a-half inches long. A second incision runs vertically down from the first, beginning at or near its posterior extremity, along the outer edge of the quadratus lumborum muscle, and extending to the iliac crest. Mr. Morris advises leaving the second incision until the kidney has been exposed, and then it can be made by cutting from within outwards with a probe-pointed bistoury, steadied by the index finger of the left hand. Polaillon's incision, which is recommended, is the reversed L one, thus ⌋, the vertical incision being the outer one, and the transverse branch directed forwards, parallel to the iliac crest. The next step in the operation is laying bare the kidney, and the third, separating the organ from its surroundings. The last, which Simon says is the hardest and longest, is tying the pedicle and cutting loose the kidney, which Mr. Lucas also says is the chief difficulty in the operation. Whether the pedicle is to be tied *en masse* or by separate ligatures, must depend upon circumstances and the creed of the surgeon.

The operation accomplished, the cavity is to be washed out with an antiseptic fluid, a chloride-of-zinc solution, for instance, one or two drainage-tubes inserted, the wound closed, and an antiseptic dressing applied. The accidents of the operation are injury of the peritoneum, hæmorrhage, cut or tear of the colon, and wounding of the pleura. In suppurative affections, also, there is great danger from adherence to neighboring organs, as terribly illustrated in a case of Billroth's quoted by Guyon,[30] where the inferior vena cava and right renal vein were ruptured, even with the more ample room of an abdominal incision.

Peritonitis and septic peritonitis, Guterbock [31] says, are unknown as sequelæ to lumbar nephrectomy, but pyæmia and septicæmia are more frequent than after abdominal nephrectomy.

Nephrotomy (lumbar) is substantially an incision into an abscess sac or cyst, often a preliminary operation to nephrectomy. If there is a tumor in the loin, this will be the guide for the incision, which is similar to that for lumbar colotomy, only a little posterior to it. It is slightly oblique in the ilio-costal interspace, beginning over the outer border of the erector spinæ, and continued forward for three or four inches. The operation is an extremely easy one, says Mr. Tait. The table of statistics shows that it is a less dangerous operation for suppurative lesions than nephrectomy; and, being first done in this class of cases, robs a subsequent nephrectomy of much of its danger.

Marchetti's [32] celebrated case, fairly well substantiated, which happened way back in the seventeenth century, about 1683, might, I suppose, be called in modern nomenclature, a case of nephro-lithotomy. Besides the interest which the case itself excites, it is so attractive in its quaint style, as related

[1] Continued from page 353 of the last number, in which the figures here referred to will be found.

[28] Birmingham Medical Review, September, 1885.

[29] Le Dentu. Technique de la Nephrectomie. Revue de Chirurgie, No. 1, 10 Janvier, 1886.

[30] De la Taille Rénale. Annales des Maladies des Organs Génito-Urinaires, March, 1887.

[31] Centralblatt für die Med. Wiss., November 21, 1885.

[32] A Contribution to the History of Nephro-Lithotomy, by Howard Downes. Medical Times and Gazette, 1, 1885, p. 238.

by Charles Bernard, and incidentally in the glimpses of character of both surgeon and patient, that I will give an abstract or two. It was the case of a Mr. Hobson:

"This gentleman, who was consul for the English at Venice, having been afflicted with a stone in the kidney" (how he arrived at his diagnosis the account does not state), "was at length attacked with a fit of that duration and violence, that it reduced him almost to desperation; and, finding no relief from any means that had been used, he determined to apply himself to Dominicus de Marchetti, at Padua, a famed and experienced practitioner there, the son of Peter, both well known to the learned part of their profession. To this person, Mr. Hobson, under the greatest extremity of pain imaginable, addressed himself, imploring of him that, having made use of all conceivable means, and the best advice that was to be had in Venice, without success, he would be pleased to cut the stone out of his kidney, in his belief that no other method remained capable of relieving him, adding that he was not insensible of the danger, but that death itself was infinitely more eligible than a life in that misery under which he had long, and did then groan. Marchetti seemed very desirous to have declined it, representing not only the extreme hazard, but, as he feared, the impracticableness of the operation, that 'twas what he had never attempted, and that to proceed to it was, in fact, to destroy him. But, Mr. Hobson persisting that, if he refused it, he would never desist 'til he found out one who would do it. Marchetti was at length, by his resolution and importunity, prevailed upon to undertake it; and, having prepared himself as he thought convenient, he began with his knife, cutting gradually upon the region of the kidney affected so long, till the blood disturbed and blinded his work so, that he could not finish it at that attempt, wherefore, dressing up the wound till the next day, he then repeated and accomplished it by cutting into the body of the kidney, and taking thence two or three small stones, he dressed it up again. From this instant, he was freed from the severity of his pain, and, in a reasonable time, was able to walk about his chamber, having been in no danger either from flux of blood or fever. Marchetti continued to dress the wound for a considerable time, but was not able to close it up, it soon becoming fistulous from the continual flowing of the urine through the sinus; but, being in all other respects restored to health and vigor, and the matter discharged being little, he took leave of the Professor, and returned to Venice under the care and management of his wife, who, one morning, as she was dressing the sore, fancied she felt something hard and rugged as she wiped it, upon which, examining a little more carefully with her bodkin, which served her instead of a probe, she found it to be a stone of the figure and magnitude of a date-stone, which, being removed, he never after complained of the least uneasiness in the part."

When, through the irritation of the calculus, an abscess is formed, and a tumor appears, and we have calculous pyelitis, "then, indeed," said this same Charles Bernard, "the necessity and reason of the operation are so obvious, and the difficulty so little, that no man ought to decline it." But an operation before the calculus [33] "has occasioned destructive changes, which are liable to terminate in the death of the patient, whether he be abandoned to nature's efforts, or be afforded a chance by a resort to the knife." That is to say, an operation, as a preventative measure, is the thing to be desired. But here comes in, alas! the difficulty in diagnosis, which, in the majority of cases, is conjectural only.

The signs of renal calculus which warrant a lumbar exploration of the kidney, says Mr. Chavasse,[34] are: (*a*) blood in the urine; (*b*) unilateral pain passing down the ureter towards the testes; (*c*) pain elicited by deep-seated pressure in the lumbar region, between the last rib and the iliac crest, just external to the erector spinæ muscle; (*d*) the presence of uric-acid and oxalate-of-lime crystals in the urine. Moreover, he adds, the surgeon is justified in an exploration in those cases of chronic nephralgia depending on uncertain causes, which milder means and medicine have failed to remedy; and, even if no stone is detected, instances have been recorded in which prolonged relief has been obtained.

Paroxysmal lumbar nephralgia and hæmaturia, both aggravated by exercise, pain shooting from loin to groin, and testes, with retraction of the testes, is a classical group of symptoms of great reliability, says another.[35] In still another case operated upon, the symptoms were occasional acidity of the urine, appearance and disappearance of pus, pain in the region of the left kidney, and hæmaturia.

Mr. Owen [36] operated and found a calculus in a case where the symptoms were pain in region of the spermatic cord, running down the thigh, with urine often thick and bloody.

In Mr. Morris's first case, the symptoms were attacks of renal colic and hæmaturia.

Dr. Gross [37] says the best diagnostic symptoms of renal calculus are intermittent attacks of renal colic, with tenderness on pressure; the presence of blood; and, perhaps, a little pus in the urine, with frequency of micturition. "This group of symptoms being present," he says, "the surgeon is certainly warranted, after the failure of ordinary remedies to relieve them, in cutting down upon the kidney, through the loin, with a view to its exploration with the finger, a needle, and, if needed, by an incision of the kidney-substance itself, through which the finger can be carried into the calices and pelvis of the organ."

The position of the calculus in the kidney, whether in the pelvis or substance, has been thought [38] to make a difference in the symptoms, which would seem natural. If the calculus were in the pelvis of the kidney, there would probably be pus in the urine, and the symptoms would be more severe and more constant than if the stone were in the substance of the organ. As the dangers from nephro-lithotomy are not great — in sixty-three examples of attempted and accomplished nephro-lithotomy, there were only three deaths, or 4.76 per cent. [39] — it would seem to be sound surgery to cut down upon, and explore the kidney, whenever the symptoms are such as to give reasonable expectation of finding the calculus. Suppose the surgeon does find himself deceived in his diagnosis, he has caused his patient no great risk, for, in twenty-

[33] Philadelphia Medical News, April 25, 1885, Vol. 46, p. 459.

[34] Renal Surgery. Lancet, (London), February 26, 1887.

[35] Gordon Lloyd. Practical Observations in Kidney Surgery. Birmingham Medical Review, December, 1886.

[36] British Medical Journal, 1885, II, p. 701.

[37] Transactions of American Surgical Association, Vol. III, 1885.

[38] Nephro-Lithotomy, by J. Chiene. British Medical Journal, February 7, 1885, Vol. I.

[39] Gross. Philadelphia Medical News, December 18, 1886.

nine cases collected by Dr. Gross,[40] in which the kidney was cut down upon, and in four of which it was cut into, and no stone found, all recovered.

That surgeons are more and more following the lead of Mr. Morris every day, is manifest from the increasing number of recorded cases; and, in the future, it is to be hoped that they will be eager to relieve their patients, through operative interference, from the intolerable agony of renal colic from calculus, and not wait to be implored by them in desperation, as Mr. Hobson did Marchetti. "The wise surgeon," says Mr. Morris, "will not wait too long, watching the *vis medicatrix naturæ* — a force which, with renal calculus disorders, as with so many others, too often ends by handing over the patient to the sombre solicitude of the undertaker."

The incision for nephro-lithotomy (Fig. 2, II I) has generally been made parallel to the last rib, from one-half to an inch-and-a-half below it, beginning at the edge of the erector spinæ muscle, and extending four to four-and-a-half inches. This incision may be supplemented by a vertical one, as in nephrectomy, if more room is desired, or the simple vertical incision alone may be sufficient. When all hæmorrhage is stayed, the edges of the wound being held widely apart with retractors, the perinenal fat is to be torn through; and, when the kidney is reached, the finger carefully explores the posterior surface of the organ, the abdominal walls of the patient, meantime, being well supported by an assistant, or pillow. If nothing indicates the presence of a stone on the posterior aspect, the anterior surface is to be explored next, the kidney being pressed backwards by the finger which is exploring the front surface. If the result is negative, a fine needle is to be passed into the renal substance in va-

[40] Ibidem.

INJURIES OF THE KIDNEY — 1879-1887.

No.	Injury.	Reference.	Reporter.	Result.	Remarks and Symptoms.
1	Bruise of right kidney.	Southern Clinic, Richmond, 1879, i, 130-132.	Oscar J. Coskery.	Recovery.	Hæmaturia for four days.
2	Lacerated kidney from fall of a load.	Cincinnati Lancet and Clinic, 1879, N. S., iii, 411.	Wm. Judkins.	Death.	Bladder contracted and empty. Right kidney lacerated almost beyond recognition.
3	Rupture of kidney from fall.	Cincinnati Lancet and Clinic, 1879, N. S., iii, 411.	R. R. Davy.	Recovery.	Hæmaturia ceased on the morning of 2d day. Nearly well on 19th day.
4	Possible rupture from fall.	British Med. Journal, Sept. 1, 1879.	J. Ward.	Recovery.	Hæmaturia and pain; was well in eleven days.
5	Rupture of right kidney from fall.	Lancet, 1880, i, 90.	Charteris.	Death.	No hæmaturia; on autopsy the kidney found ruptured along its transverse diameter below its centre; the upper fragment having attached the ureter and renal vessels.
6 7 8	Three cases of ruptured kidney.	Lancet, 1880, i, 91.	Dunlap.	Death.	In two cases symptoms not noted. Hæmaturia in the third, autopsies in all showed rupture.
9	Rupture together with that of liver.	Dublin Journal, Med. Science, 1880, lxix, 61-64.	W. T. Stokes.	Death (from other causes.)	No hæmaturia, kidney extensively torn, but not extending into the hilus.
10	Laceration of kidney from fall.	Dublin Journal, Med. Science, 1880, lxx, 164-167.	E. H. Bennett.	Death.	Hæmaturia.
11	Laceration, fall from horse.	St. Louis Cour. Med., 1880, iv., 237-238.	J. S. Eastman.	Death.	Hæmaturia. On autopsy the left kidfound badly lacerated.
12 13 14	Three cases of probable rupture.	Maryland Med. Journal, (Balt.), 1880-81, vii, 318-320.	O. J. Coskery.	3 recov., 1 subsequent death perh. from the accid't.	Hæmaturia in all; in one very severe.
15	Complete rupture of left kidney.	Progrès Med., Paris, 1881, ix, 41.	Duplay.	Death.	No hæmaturia; phenomena of internal hæmorrhage.
16 17 18	Three cases of wounds or contusions of the kidney.	Journal Med. de Bordeaux, Aug. 3, 1883.	Sebilseau.	Unknown in one, recovery in one, death from other causes in 3d.	Hæmaturia in two cases; absent in one.
19	Rupture of kidney and liver.	Medical Annual, Albany, 1882, iii, 185.	S. B. Ward.	Death.	No hæmaturia; upper portion of left kidney found ruptured.
20	Rupture of liver and kidney from fall.	St. Bartholomew Hospital Reports, 1881, xvii, 243-247.	W. H. Jessop.	Death.	Hæmaturia. Right kidney ruptured in two places.
21	Bullet wound of abdomen with extensive hæmorrhage from left kidney.	Gaillard's Med. Journal, N. Y., 1882, xxxiii, 122-124.	J. J. Gorham.	Recovery.	Late hæmaturia. Collapse and almost death from hæmaturia on 25th day.
22	Severe injury of right kidney.	Lancet, 1882, ii, 566.	H. Lupton.	Death.	Bladder also ruptured.
23	Contusion and tear of kidney.	Rev. Med. de l'Est, Nancy, 1884, xvi, 598-601.		Recovery.	
24	Rupture.	Med. Times and Gazette, London, 1885, i, 9.	Jas. Spence.	Death.	Continued hæmaturia. Death from secondary hæmorrhage on the forty-seventh day after the accident.
25	Tear of kidney.	Rev. Med. de Toulouse, 1885, xix, 449-455	Ripoll.	Recovery.	
26	Tear from pressure.	Rev. Chir., Paris, 1885, v, 418.	Maunoury.	Recovery.	Hæmaturia. Suppuration. Incision.
27	Rupture from fall of a heavy body on patient	Lancet, March 13, 1886.	G. Y. Eales.	Death.	Hæmaturia. Upper half of right kidney smashed to a pulp.

In these twenty-seven cases there were eleven recoveries and sixteen deaths, and of these sixteen, death occcured in two from other causes.

Hæmaturia was present in seventeen cases, absent in five, and in five it is not known whether or not it was present.

rious directions, so as to puncture the calices of the kidney.

Finally, an incision may be made into the calices, and the interior of the kidney explored with finger or probe. The stone, being found, is best removed by the finger, if possible; if not, by forceps. The operation completed, a drainage-tube is to be inserted, the wound closed, and an antiseptic pad or dressing applied. The dangers — not great — of the operation to be kept in mind are hæmorrhage, cellulitis, renal abscess, and fistula. Healing is generally rapid.

In conclusion, I desire to express my sincere thanks to Dr. Chadwick for the loan of much valuable literature upon the subject.

MORTALITY STATISTICS OF NEPHRECTOMY AND NEPHRO-LITHOTOMY.

NEPHRECTOMY.

Lumbar Incision.

By whom collected	No. of Cases	Deaths	Per cent.
Gross	111	41	36.93
Brodeur	125	47	37.60
Harris	50	19	38.00
Czerny	36	13	36.11
Marduel	24	7	29.16
Otis	18	2	11.11
Average per cent., 31.48.			

Abdominal Incision.

Authors	No. of cases	Deaths	Per cent.
Gross	120	61	50.83
Brodeur	110	55	50 00
Harris	46	23	50.00
Czerny	28	16	61.54
Marduel	28	18	64.28
Otis	8	4	50.00
Average per cent., 54.44.			

NEPHRO-LITHOTOMY.

Authors	No. of cases	Deaths	Per cent.
Gross	21	2	9.52
Brodeur	36	8	22.22
Otis	21	2	9.52
Average per cent., 13.75.			

NOTE.— The same cases are probably included in many of the lists, but this does not make so much difference where only an estimate of the mortality in each operation is desired and the average of all the per cent. is taken.

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REPORT ON PROGRESS IN SURGERY.

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

OSTEOPLASTIC RESECTION OF THE MANUBRIUM STERNI.

In a very interesting article by Bardenhauer[1] are presented the indications for the above operation: which are caries of the sternum and to render accessible the contents of the mediastina, for example, trachea, pleura, lungs, tumors, large vessels and other retro-sternal strictures. Lack of space forbids an exhaustive review of this valuable article, but the principal points may be thus briefly reviewed. For the ligation of the innominate artery Bardenhauer recommends a preliminary resection of the manubrium with a transverse resection of the sternal ends of the clavicles and upper ribs. This operation certainly renders the parts more accessible, but cannot always be necessary, for success has followed the ligation of this vessel by Helfrich with the head in the Roser position. Bardenhauer has performed this operation three times in order to render more easy the removal of tumors projecting into the thoracic cavity; with two fatal results from collapse.

For ligation of the sub-clavian in its first operation, Bardenhauer recommends as a preliminary operation, resection of the sterno-clavicular articulation, the first rib, and half the manubrium. He regards any unintentional injury of important strictures due to lack of operative technique. Bardenhauer has performed resection of the sternum four times to expose retro-sternal abscesses, exclusive of eight cases of abscess dependent upon caries of the sternum. For removal of a carious sternum Bardenhauer now performs a very thorough operation, and has thus far had better results than by trephining. The after-treatment consists of a thymol gauze packing. As end results there have been observed the approximation of the clavicles and ribs to the median line, a moderate anterior projection of the shoulders, and a slight degree of kyphosis, (in unilateral resections scoliosis), the interspace is filled with bony tissue from the preserved periosteum. The term "osteoplastic resection" is reserved for cases where the sternum is practically made a temporary door which is hinged at one border by uninjured soft tissues. This "door" can be opened, the cavity of the mediastina inspected, and the "door" again closed and fastened by sutures in

[1] Osteoplastiche Resection des Manubrium Sterni, Mittheilungen aus dem Kölner Bürger-hospital, 1 Heft, 1886.

its original position. This operation has never been performed.

The wounding of the plura is claimed to be free from danger if it at once be closed by an antiseptic tampon.

AORTIC ANEURISMS TREATED BY GALVANO-PUNCTURE.

Olelar[2] has treated a case of aneurism in the first part of the aorta. Great pain existed, soon a tumor was noticed over the second left costal cartilage, and dysphagia appeared.

A Spamer battery of twenty cells was used. The needles were inserted about one inch apart. The current was gradually increased from two to ten cells, and then gradually lowered to two cells again. The séance lasted ten minutes. The patient complained of burning pains in the sac and in the left chest for some hours after each operation.

The tumor became harder and pulsated less; the dysphagia was relieved and the general condition improved; the pains however continued. The tumor after the lapse of a month began to enlarge and pulsate.

Brancaccio[3] recorded a case of aneurism of the ascending aorta cured by electrolysis. The patient recovered and died three years later — of double pneumonia. The post-mortem appearance of the cured aneurism are recorded.

THE RESULTS OF PYLORECTOMY AND GASTRO-ENTEROSTOMY.

A recent résumé[4] gives some valuable information concerning the former operation, first introduced by Peau and Billroth, in 1879. The opinions as to its real value and beneficial results have varied, much as the number of reported cases have increased. Sufficient clinical data, however, have now been collected to enable one to form a just opinion of this remarkable operation.

The indications for the operation are carcinoma of the pylorus, cicatricial stenosis and gastric hæmorrhage, or perforation.

A majority of the cases of pylorectomy have been cases of cancer, mortality seventy-five per cent. The mortality in cases of cicatricial stenosis either from ulcer or ingestion of caustic liquids is about fifty per cent. Richter's table (August, 1886), gives a mortality of seventy-two per cent. for one hundred and three cases of all kinds, while Billroth's death-rate (1880 to 1886), shows only fifty-five per cent.[5]

There is also a great difference in the final results in operations for cicatricial stenosis and cancer, as well as in the mortality of these two sets of cases. In cancer of the pylorus there is no case on record in which a radical cure has been effected, death occurring from recurrence, either in situ or metastatic, in from four months to five years.

Of fifteen cases which survived the operation

2 lived	4	months.
2 " (1 death from pneumonia).	6	"
1 "	8½	"
1 "	10	"
3 "	12	"
1 "	13	"
2 "	15	"
1 "	2½	years.
1 "	3	"
1 "	5	"

1 alive at end of 2 years. End not known.

In four or five cases patients were restored to a state of tolerable usefulness, the gastric distress relieved and normal digestion obtained for more than two years, and about an equal number for twelve to fifteen months. To offset this relief enjoyed by a fortunate few, is the high death-rate attending the operation. That the condition of the patient warrants the risk involved by such an operation depends much on the individual case. The chances are strongly against a successful result.

Resection for non-malignant stenosis has a much more favorable record. Here, a successful operation means a permanent cure. Rydygier's results show two cases alive and well at three and six years after the operation. A case of Billroth's is reported in perfect health at the end of three years. Rydygier goes so far as to advise pylorectomy for pyloric ulcerations. Excision for ulcers not pyloric, is also possible. But notwithstanding this, the favorable results and lower death-rate of Loreta's digital divulsion in cases of cicatricial stenosis deserves earnest consideration before a patient is subjected to the more dangerous operation. In regard to recurrence, results vary. Kocher has seen marked symptoms of recurrent stenosis in two cases, one of which survived the operation six months, the other three years, while Wölfler's patient survived extirpation of the pylorus five years, without stenosis.

The value of pylorectomy may be stated as follows: The death-rate in cases of carcinoma is seventy-five per cent. and of the surviving twenty-five per cent. death from recurrence occurs in sixty per cent. In view of this result, the operation of gastro-enterostomy demands consideration as a palliative operation, which, if it does not cure, has satisfactorily relieved, a result which equals that obtained in many cases by pylorectomy. Cicatricial stenosis with fifty per cent. permanent recoveries are apparently the cases in which this operation appears in its most favorable light.

The most thorough review of the subject of gastro-enterostomy is that of Rockwitz,[6] of Strassburg. His conclusions are based on a careful investigation of twenty-one cases. Fisher's[7] case, already fully reported, and also Billroth's,[8] where gastroenterostomy was combined with pylorus, resection being excluded.

This table shows seventeen cases of stenosis due to cancer, and four of cicatricial stenosis pyloric duodenal. Total number of recoveries nine, six of which were carcinomatous. Total mortality 57.2%, of cancer 64.7%. Eleven died directly from the operation as follows: eight from collapse or exhaustion in less than three days after the operation. One from internal hæmorrhage from the wound; one from peritonitis on the fourth day; one from exhaustion (on the tenth day) due to vomiting caused by a spur which obstructed the afferent portion of the attached loop. One also died from marasmus at the end of four weeks. The remainder survived free from trouble. The above is the results from the full table, but at Strassburg, Lücke has operated eight times, two for stricture and six for cancer, with one death, while the record from Billroth's Klinik shows eight cases, with five deaths directly due to the operation. The rate, therefore, of mortality in these two hospitals is very different. Rockwitz's article is too elaborate to be more than

[2] El Siglio Medico, Feb. 27, 1887.
[3] Riv. Interiat. di Med. e. Chir., No. 2, 1884.
[4] Med. News, edit. 1887. Vol. II. 105.
[5] Ueber die Magenoperationem an Prof. Billroth's Klinik. 1880. bis März, 1886, von Hacker.
[6] Deutsche Zeitschr. f. Chir. Vol. xxv. 502.
[7] Deutsche Zeitschr. f. Chir. Bd., xvii.
[8] Die Magenoperationem an Prof. Billroth's Klinik v. Hacker Wien, 1886, S. 25.

allu led to here, but a careful perusal is recommended to those interested in this subject, or at least, the interesting review recently published.[9] In brief, the difference in results obtained at Strassburg and Vienna, is apparently due to the class of cases and method of operating. The Vienna[10] cases were, seven patients with unoperable pyloric carcinoma and one with a tuberculous stricture. Three recovered from the operation and were living at the end of one, two and four months afterwards. The high mortality is attributed to the debilitated condition of the patients at time of operation, and that the operation was often done only after fruitless attempts to excise the pylorus, which prolonged greatly the operation and necessitated additional exposure and manipulation of sensitive tissues.

On the other hand, Lücke's cases all recovered save one, and lived at least several months in comparative comfort, fourteen months in one case. Both cases of non-malignant stricture were permanently relieved; a mortality of 12.6% against Billroth's 63.6%. The post-mortem condition of Lücke's cases was, as a rule, satisfactory, with one exception, in which a cicatricial contraction occluded the efferent loop of intestine.

Rockwitz's conclusions state that gastro-enterostomy is indicated in cases of pylorus or duodenal stenosis if resection is impossible. Also, all cases of carcinoma with extensive adhesions or glandular metastasis. Conversely that pylorectomy is contra-indicated if adhesions exist between the tumor and the pancreas or liver, where glands are extensively involved or the patient is in an exceedingly weak state.

The following points are of importance with reference to the operation:

(1) All preliminary breaking down of adhesions, isolation of the tumor or unnecessary manipulation of the abdomen, are especially to be avoided. They increase the danger of infection and weaken the patient.

(2) The linea alba is the best site for the abdominal incision.

(3) It is not necessary to find the first coil of jejunum as taught by Wölfler. It is more advantageous to select a coil of intestine which is easily accessible. The afferent end may be recognized by arousing its peristaltic action (vide Nothnagle test). This simplifies the operation, and diminishes the danger of compressing the colon with the reflected mesentery.

(4) The direction of peristaltic action of the stomach and intestine should correspond; that is, its direction should be from left to right.

(5) The kind of suture is not so important as its accurate application.

(6) When disturbance of peristaltic action occurs, the stomach pump or tube is of value.

DRAINAGE OF PELVIC ABSCESSES.

Rinne,[11] at the Fifteenth Surgical Congress in April, 1886, reported two cases of pelvic abscess of very long duration, which had rapidly recovered after trephining the ileum, and thus establishing a direct system of drainage. The bone was exposed by an antero-posterior incision at a point three fingers breadth above the trocanter. The ileum was then chiselled through, giving an opportunity for the exploration of the abscess cavity with the finger, and thoroughly draining it after curetting. This method is not dangerous, and is valuable for the treatment of abscesses situated in the iliac fossa, which have resisted obstinately the ordinary treatment.

THE "KONIG" INCISION FOR OPERATIONS ON THE KIDNEY.

König, after an investigation by dissections and operations on the living subject for the purpose of ascertaining the most advantageous method of exposing the kidney, has decided in favor of the following operation.[12] The primary incision is started at the twelfth rib, at the external border of the erector spinæ muscle, and continued downwards along the border of this muscle to within a few centimetres above the iliac crest. From this point it is curved forwards towards the umbilicus, terminating at the external edge of the rectus muscle. If necessary, it can be continued even to the navel. It is often advantageous to give the first part of the incision an oblique rather than a perpendicular direction, so that it forms with the transverse portion a moderate curve (Czerny). The tissues are divided to the peritoneum, the cut edges of the individual muscles being marked by knotted sutures, so that they can afterwards be identified and united.

This incision, König claims, makes the kidney surprisingly accessible, especially if the peritoneum is separated with the hand from behind and pushed forward. He proposes to call this method the "retro-peritoneal lumbo-abdominal incision." If, on account of insufficient space for diagnostic or operative purposes, it is necessary to obtain access to the tumor through the abdominal cavity, this can be readily accomplished by incising the peritoneum in the line of the transverse incision. It should, however, be reunited by suture before any infective material is evacuated from the kidney; as, for example, the removal of a suppurating kidney or an incision in case of a putrid pyelo-nephritis. The author closes with a report of two cases, one a large renal calculus, the other suffering from pyelitis, operated on in this way, with satisfactory results, and emphasizes the importance of preventing abdominal hernia, by dividing muscles in the direction of their fibres and accurately suturing their edges. The sutures should remain for three weeks after the operation and the patient should remain quiet in bed for at least four weeks.

SUPRA-PUBIC LITHOTOMY.

Thomas Annandale[13] summarizes the new method of performing supra-pubic lithotomy as follows, and considers that it is not only applicable to children, but also to adults:

(1) The gradual and thorough dilatation of the bladder by the injection of some antiseptic fluid.

(2) The introduction of a lithotrite, and the seizing and fixing of the stone in its blades.

(3) The depression of the handle of the lithotrite, so as to press the stone against the abdominal wall, immediately above the pubes, in the median line.

(4) Cutting down through the abdominal wall, in the middle line, upon the pubes, and immediately above it, in the usual way, until the bladder is reached.

(5) Depressing the handle of the lithotrite still more

[9] Med. News. Vol. li., 187, 191.
[10] Deutsche Zeitschr. f. Chir. Rockwitz. Bd. xxv, S. 307.
[11] Centralbl. f. Chir., 1886. No. 24, Beilage.
[12] Centralbl. f. Chir., 1886, No. 35.
[13] British Medical Journal, October 9, 1886.

so as to stretch the wall of the bladder over the stone, and make it prominent at the wound.

(6) Incising the stretched bladder-wall upon the stone to a sufficient extent, in a downward direction, and then protruding through the opening the stone and the blades of the lithotrite.

(7) Gently opening the blades of the lithotrite and removing the stone, and, in withdrawing the lithotrite, catching one end of an India-rubber catheter in its blades, and bringing it out through the urethral orifice, the other end of the catheter being left in the bladder.

(8) Stitching the wound in the abdominal wall, and introducing a drainage-tube at its lower end. If the wound in the bladder be small, Annandale considers it better not to stitch it, if large catgut sutures may be inserted. The dilatation of the rectum he regards as only a complication to the operation.

FRACTURE OF THE ULNAR IN THE UPPER THIRD, WITH DISLOCATION OF THE RADIAL HEAD.

The rarity of this injury, its limited literature, and great practical importance, has led Dr. Hans Doerfler (Nüremberg) [14] to make it the subject of an especial investigation. After reporting four cases which had come under his personal observation, he analyzes a group of nineteen cases, which he succeeded in collecting. It was caused by direct violence in five, and by combined, for example, as from a fall, in eleven. A majority of cases were between the ages of three and fifteen. All others after thirty-five. From experiments on ten cadavera, he concludes that both injuries can occur simultaneously, but that the fracture is primary, and the dislocation secondary, and cannot occur if the ulnar is fractured below the upper third. After describing the symptoms of this injury, the writer proceeds to the discussion of the prognosis and treatment. When treatment is begun at once, or even within the first six weeks, the prognosis is good. After two months, capsular degeneration diminishes the hope of a successful termination; but, as a new capsule soon forms at the point where the radius rests, its function may be to an extent restored if the ulnar unites. Arthritis deformans may be a late result.

The prognosis of paralyses is unfavorable. As regards treatment, it is of great importance to consider the possibility of radial dislocation in all fractures of the ulnar. If present, this should be reduced by extension and direct pressure from below. The elbow is then flexed at an acute angle (to relax the biceps), the forearm semi-pronated, and a stiff bandage applied, which should be undisturbed for from four to six weeks. Semi-supination is to prevent the new-forming callus from reproducing a displacement. In old cases, resection of the capitulum radii is indicated if reduction fails. Osteo-palinclasis of the ulnar may be, at times, necessary.

ANTISEPTIC IRRIGATION OF THE KNEE-JOINT.

A very interesting article has been published by Dr. Robert F. Weir,[15] in which this method was strongly recommended. The treatment is considered indicated in (1) subacute or chronic synovitis, where the usual treatment has failed after a fair trial; (2) hydrops articuli, at once; (3) threatened pyo-arthrosis, at once; (4) obstinate cases of gouty synovitis.

It can be also used in cases of acute synovitis with painful distension, hæmathrosis, and pyo-arthrosis. The details of the procedure are carefully described. The fluid for irrigation is usually a three to five per cent. carbolic solution, but, in cases of threatened purulent synovitis, a one-tenth per cent. sublimate solution is substituted.[16] In ordinary cases, the reaction is moderate, lasting twenty-four hours. The dressing is changed after seven to ten days, the patients recovering promptly, with few exceptions, and invariably without toxic symptoms. In cases of "Hydrops Articuli" with excessive relaxation of ligaments, three to four injections, at intervals of several weeks, has caused sufficient shrinkage and thickening of the capsule and ligaments to steady the limb (Volkmann).

MALGAIGNE'S HOOKS IN THE TREATMENT OF FRACTURE OF THE PATELLA.

Mr. Frederic Treves [17] considers that the use of Malgaigne's hooks is the most satisfactory treatment of fractures of the patella. The failure of the hooks depended upon the danger in their use; but, to-day, Mr. Treves tells us that he has used them under antiseptic precautions, for the past twelve months, in all his cases, and has never had reason to regret their use. He applies them in the following manner: No anæsthetic is required; the limb is securely fixed on a back-splint, which keeps the knee fully extended, a foot-piece preventing any shifting. The surface of the knee is antiseptisized. The borders of the patella are mapped out by pencil, and the points for the introduction of the hooks indicated. The hooks should enter the bone at equal distances from the median line. Four punctures are now made with a sharp tenotome at the points where the hooks are to enter. The two upper punctures open the synovial cavity, and through them the fluid in the joint is easily evacuated. The two lower punctures are external to the joint. When all fluid has escaped, the hooks are applied. They should be aseptic. The two parts of the apparatus must be separated, and each portion applied by itself, it being better to apply the lower hooks first, since there is often difficulty in applying the upper ones. Finally, after the hooks have secured a good hold on the bone, they are screwed together, so that the fragments are brought into close contact. The upper fragment tends to "ride." The four punctures are then covered with iodoform, and the limb is placed on an inclined plane.

This completes the dressing, the hooks being always in sight. In the cases so far treated, there has been neither rise in temperature, pain, suppuration about the punctures, nor trouble in the joint. The hooks are removed at the end of six weeks.

J. D. Rushman [18] has recently read a paper on the treatment of fractured patella at the New York Surgical Society, which deals with the subject comprehensively. He concludes that the best treatment is by Malgaigne's hooks.

A NEW METHOD OF PERFORMING EXCISION OF THE KNEE-JOINT.

Herbert Allingham [19] brings forward an operation for excision of the knee-joint, which, he believes, is new, and which is said to have the following advantages:

[14] Deut. Zeitsch. f. Chir., Bd. 23, Hf. 3 and 4, 1886.
[15] New York Medical Journal, XLVII, No. 8, February 20, 1886.
[16] Schede. Klin. Vorträge, No. 251, 1885.
[17] Brit. Med. Jour., July 24, 1886, p. 153.
[18] Medical News, February 5, 1887.
[19] British Medical Journal, January 15, 1887, p. 106.

The attachments of the fascia lata, the lateral ligaments, and the prolongation of the vasti to the tibia and fibula are not divided.

Above the patella, the synovial pouch is well opened, and the synovial membrane can be thoroughly removed.

The joint and the ends of the bone can be thoroughly examined.

The undivided quadriceps is a strong antagonist to the ham-string muscles, and dislocation of the tibia backward, or tilting of the femur, which commonly occurs after the operation, is thus prevented.

Progression is greatly improved, the attachment of the quadriceps being neither divided, nor the muscle shortened. This is, of course, of great importance, if one hopes for a movable joint.

The operative procedure is as follows: A vertical incision is made from two to three inches above the patella, and prolonged over the patella down to the tubercle of the tibia. All the soft tissues are thus split down to the bone; the patella is vertically sawn in two. These lateral flaps have half the quadriceps' tendon, half the patella, and half the ligamentum patellæ, and are retracted to each side.

The crucial ligaments are divided; then, the leg being flexed, the condyles of the femur are pushed forward on the head of the tibia, and a slice of bone is removed. Now the leg is completely flexed, and the internal lateral ligament is carefully separated from the internal semi-lunar cartilage. This is very important, as this attachment prevents the head of the tibia from coming forwards. The tibia is then pushed forwards on to the femur, and, in order to avoid dividing the lateral ligaments, a thin slice is removed with a strong knife or chisel. The joint is then cleared of synovial membrane, and drainage is made at the posterior-lateral aspects of the cavity.

The patella is shelled out if it is diseased; or, if not, is united by wire. The joint is then closed, all the parts being sutured independently, and an antiseptic dressing applied.

(To be continued.)

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

E. O. OTIS, M.D., SECRETARY, *pro tem.*

MEETING May 2, 1887, DR. C. F. FOLSOM in the chair.

DR. A. F. HOLT read a

CASE OF ACUTE RED ATROPHY OF THE LIVER.[1]

Dr. Holt, in beginning his paper, remarked that, although this case occurred to him while performing his official duties as medical examiner, it was for its medical interest that he reported it, and that he did not refer particularly to its medico-legal aspects.

DR. H. I. BOWDITCH said that this was one of the most interesting cases he had heard in a long time, and asked the reader if, from a microscopic examination of the blood, one could tell when the extravasation took place — whether, for instance, one or three days previous to the examination. He further remarked that he confessed to some misgivings as to the innocence of the husband in the case, and he could not help thinking that he killed his wife, although one ought to be very cautious in judging.

DR. HOLT said that he did not feel entirely satisfied that the attack of the husband had nothing to do with the disease.

DR. DERBY asked what the result of the judicial inquiry was.

DR. HOLT replied that the man was acquitted.

DR. J. J. PUTNAM desired to know some of the other causes of the disease.

DR. HOLT replied that the causes were obscure. Those commonly given were certain mental conditions, such as anger, fear, grief, and the acute infectious diseases.

DR. C. P. PUTNAM asked when the jaundice appeared.

DR. HOLT replied, three days before death.

DR. PUTNAM further desired to know if Dr. Holt had had the patient under careful observation from the time of the maltreatment by her husband until her death.

DR. HOLT replied that she had been carefully watched during this time, and again referred to the exceeding rapidity of the atrophy. In the morning, the liver was apparently normal, and in the evening it had disappeared.

DR. PRINCE asked if there could have been any possibility of phosphorous poisoning.

DR. HOLT said this had been thought of, but there was no evidence to show that such was the case.

DR. MCCOLLOM asked if cases of this disease were often as rapid as this one.

DR. HOLT said that some of them are of exceeding rapidity. Dr. Holt, in conclusion, also said that specimens had been submitted to both Drs. Fitz and Whitney, and they were agreed as to the nature of the disease. Dr. Whitney also reported the finding of blood-crystals.

DR. WADSWORTH read the second paper, upon

A CASE OF RECURRENT PARALYSIS OF THE THIRD NERVE.[2]

In the remarks which followed, DR. DERBY asked if the headaches increased in frequency.

DR. WADSWORTH said they did not, in his cases.

DR. DERBY also asked if there was any especial change during the catamenia.

DR. WADSWORTH said not.

DR. J. J. PUTNAM asked if it was only the third pair that was affected in this way.

DR. WADSWORTH replied that this was the only nerve thus affected so far as he knew, but he would not say positively that others were never affected.

DR. PUTNAM further asked: Supposing the pathological condition is an organic one, what is the cause of the headache and its periodicity? is it congestion about the lesion, or what?

DR. WADSWORTH replied, it was hard to say. It might be periodic attacks of congestion, which caused greater pressure. One author supposed that in a case of tubercular tumor there was a periodical increase in the formation of tubercles which pressed upon the nerve, and caused the paralysis; and, as the patient became habituated to the condition the nerve resumed its function.

[1] See page 374 of the Journal.

[2] Reserved for publication.

DR. PUTNAM referred to an interesting case which came under his observation. It was that of a young girl of fifteen years, who, during the winter, had much headache and other singular symptoms, possibly hysterical. She was unable to hold her water, and her teacher sent her home from school because her eyes looked strangely, and troubled her. Then she had difficulty in using her hands, first the right, and then the left, from ataxia and numbness. She had, also, almost complete paralysis of the third nerve of the right eye. The interesting point in the case was the rapid improvement during the last month, the affection of the third nerve having almost entirely disappeared. She had been taking iodide of potash, but whether or no this had anything to do with the improvement he did not know. This case would not come under the head of any of the recognized affections of the third pair. It might be an anomalous case of the kind reported by Dr. Wadsworth.

DR. WADSWORTH said that, in all the cases reported, there was no paralysis of any other nerve.

DR. PUTNAM thought it curious that no other symptoms appeared.

DR. PRINCE asked how long the intervals were between the attacks of headache.

DR. WADSWORTH said that, with one exception, the longest interval was a year.

DR. DRIVER asked the opinion of Dr. Wadsworth upon a case which happened in his practice. A young girl at the seashore went on a boating party, which got left by the tide, and she was obliged to wade ashore late at night, arriving home much exhausted. Within twenty-four hours, there was confusion of vision, and some paralysis of the muscles of the right eye. Under iodide of potash and nux vomica, these symptoms soon disappeared.

DR. WADSWORTH thought this was one of those cases called rheumatic.

DR. PRINCE exhibited a new

VERTICAL GALVANOMETER,

comparing it with other instruments of the kind. Both horizontal and vertical galvanometers were described. The disadvantage of the horizontal instrument is that it is affected differently at different places by the earth's magnetism, and hence, does not give the same reading in one place as another. The vertical galvanometer, on the other hand, gives the same reading everywhere.

The ordinary galvanometer is, in reality, a galvanoscope, and does not indicate the strength of the current. For the physician, the galvanometer to be desired is one with large readings, which will quickly come to a standstill, not oscillating, and which is absolutely accurate. This last qualification, however, Dr. Prince did not think so important. In the galvanometer exhibited, air was used as a cushion to stop the oscillations.

AMERICAN GYNÆCOLOGICAL SOCIETY.[1]

TWELFTH ANNUAL MEETING.

BATTEY'S OPERATION: ITS MATURED RESULTS,

by DR. ROBERT BATTEY, of Rome, Georgia.

In August, 1872, the author performed his first operation for the removal of the functionally active ovaries for the relief of otherwise incurable troubles. Up to the present time, there have been no statistics as to the ultimate effect of the operation. Reports have been given showing the immediate results, but none showing the results on the affection for which the operation was performed. All the cases reported in this paper had been traced carefully up to the present time. They were all the subjects of a complete Battey's operation, and had all been operated on a year or longer. The name "Battey's operation" was retained, as it expressed the idea of the induction of the change of life artificially for the relief of disease, and this idea is included in none of the other terms, such as spaying, oöphorectomy, etc. Fifty-four cases were reported in the present article. Of these, thirty-three were cured, eight were much improved, five were slightly improved, and eight were not at all improved. In fifty of these cases, a complete menopause was induced, and in four there was a continued pseudo-menstruation. The detailed histories of a number of typical cases were then given. The following conclusions were then presented:

(1) The change of life is the most important factor in securing the complete result of this operation.

(2) In exceptional cases, the cure almost at once follows the operation, but, in the vast majority of cases, the patient must pass through the ups and downs incident to the change of life before the restoration to health is complete.

(3) The length of time required to pass through the nervous and physical perturbation attendant upon the change of life is variable. It may be one year, or it may be three or five years.

(4) Of the cases operated on, a few were no doubt badly selected, and the proper selection of cases is a problem yet to be solved.

(5) Patients who have become addicted to the habitual use of morphia, opium, chloral, or alcohol cannot be restored to health until the pernicious habit is abandoned.

(6) Cases which are the proper subjects of this operation, if allowed to suffer, eventually reach a stage where they become absolutely incurable by any operation.

(7) In a number of cases, the patients were in no wise benefited by the operation. In several of these, the indications seemed clear and unmistakable.

(8) In some cases, neuralgic pain remained. How much this was due to an unabsorbed ligature, was a question to be considered.

(9) A careful analysis of the cases seems to show that the removal of the tubes with the ovaries had no influence in the establishment of the menopause, the only effect of their removal being on the disease of the tubes themselves.

(10) The operation is not an infallible one. The percentage of failures recorded is a notable one, but when it is remembered that the cases included are only those otherwise incurable, each case cured is a positive gain. A like percentage of cures in cases of cancer of the uterus, or of cancer of the breast, would be an achievement of the greatest magnitude.

The discussion of this paper was postponed until after the reading of a paper entitled

THE INFANTILE UTERUS,

by DR. A. W. JOHNSTONE, of Danville, Ky.

The author called attention to the fact that the

[1] Concluded from page 363.

uterus was composed of two distinct portions, the body and the neck, the relation between the two being almost the same as that between the stomach and pylorus. The non-development of the uterus may result from various causes, such as injury, etc. The growth and function of the endometrium was referred to at length. The author had discovered a branch of the sympathetic nerve entering the uterus near the attachment of the Fallopian tube, and he thought it probable that it was through this nerve that the uterus received its physiological orders. He held that it was not the removal of the ovaries and tubes that brought on the change of life, but it is the neurotomy which the removal of these organs necessitates. From this, he argued that the arrest of the growth of the uterus was in all probability due to interference with this nerve-supply. An acute neuritis may often pass unrecognized. One of the most marked symptoms in these cases is pain, resulting from the efforts of the endometrium to perform a function for which it is not capable. In the management of these cases, it seems that, in some of the simpler ones, a certain amount of benefit is derived from the use of stem-pessaries, and from galvanism. In the majority of cases of corporeal deficiency, he considered it undesirable to induce the menopause; but, in some cases, where the ovaries remain large and tender, this operation may be resorted to. In conclusion, the author said, if we wish to have a clear idea of the physiological position of the uterus, we must emancipate it from the thraldom of the ovaries, in whose secure grasp it has been held for the last fifty years.

DISCUSSION.

Dr. R. S. Sutton, of Pittsburg. I would ask if Battey's operation consists in the removal of the ovaries alone, and if in the fifty-four cases reported, the removal of the ovaries alone brought on the menopause in fifty cases?

Dr. Theophilus Parvin, of Philadelphia. Does Dr. Battey find the ovaries invariably diseased, and how often is there associated disease of the tubes?

Dr. Lloyd Roberts, of Manchester, England. I would ask Dr. Battey as to the condition of the uterus in the cases reported.

Dr. William M. Polk, of New York. I would ask what is the condition of the ovaries that demands removal? Can we after the abdomen is opened, tell by the appearance of the ovaries whether they should be left or removed.

Dr. G. G. Bantock, of London, England. I have always understood that Battey's operation consisted in the removal of perfectly normal ovaries. I would ask if this is the correct idea?

Dr. Robert Battey, of Rome, Georgia. In reply to the various questions asked, I would say that I do not restrict the term Battey's operation to the removal of the ovaries. The removal of the ovaries is not a necessary constituent of the operation. Battey's operation consists in the induction of the menopause, no matter in what way it is brought about. The removal of the ovaries does not always bring about the menopause, the removal of the ovaries plus the tubes does not invariably cause the menopause, the removal of the ovaries plus the tubes plus the uterus does not always bring about the menopause. In my experience the ovaries are always diseased, but this is simply an accident of the operation, the operation is not done for the removal of diseased ovaries. Battey's operation is not normal ovariotomy; I entirely repudiate that term. As a rule, I remove only the ovaries, but in a small proportion of cases I remove the tubes, but only when the tube is the seat of positive disease, such as pyo-salpinx or hydro-salpinx. The condition of the uterus varies in each case. I do not insist upon visible changes in the ovary to justify its removal. I rest for my justification on the urgent necessities of the case, and on the fact that nothing else effective has been proposed. I do not operate until all other measures have failed.

A BRIEF NOTE ON THE IMPORTANCE OF THE USE OF ANTISEPTICS IN PRIVATE OBSTETRIC PRACTICE, by Dr. Theophilus Parvin, of Philadelphia.

The question as to the necessity for the use of antiseptics in hospital practice has been settled, but in private practice their use is often omitted chiefly perhaps on account of the trouble and expense involved in their use. The puerperal woman should be as carefully treated in private practice as in the hospital ward. While an obstetrician may attend many cases of confinement without a death from septicæmia, yet he may have had many cases in which the woman has been crippled, as a result of this affection. The day is coming when if a case of puerperal septicæmia occurs in the practice of an obstetrician who does not employ these precautions, he cannot escape the censure of his professional brethren or of his own conscience.

In order to facilitate the use of these agents, the author had prepared a small case containing articles often required in the treatment of a case of confinement. The case contains corrosive sublimate tablets, strong silk for ligating the cord, antiseptic cat-gut, laudanum, ergot, carbolic acid, and tablets of persulphate of iron. There is also a flexible catheter fenaculum, laryngeal tube, needle-holder, scissors, lancet, needle and silk-worm-gut for closing tears of the perineum and within the vagina.

DISCUSSION.

Dr. Lawrence, of Manchester, England. The plan which I pursue is as follows: During the progress of the labor the vagina is several times washed out with a warm solution of carbolic acid, 1 to 200. Within half an hour after the removal of the placenta I insert a suppository of iodoform containing twenty-five grains. This is then used night and morning, and the discharges remain inoffensive. If they should become offensive I know that the trouble is within the uterus, and proceed to wash it out.

Dr. A. R. Simpson, of Edinburgh. The most important thing is that the practitioner should have perfectly clean and odorless hands. I rise to call attention to the value of turpentine in cleaning the hands. Even after the examination of a case of cancer, the use of turpentine will render the hands perfectly clean.

Dr. Reed, of Glasgow. I never examine a woman without using antiseptics. I carry in my pocket papers containing ten grains of the bichloride of mercury, and dissolve one of these in a pint of water and use it for washing my hands. As a lubricant, I use a preparation which was, I think, first suggested in Germany, consisting of three parts of pure soft soap, one part of glycerin, and five per cent. carbolic acid. It is to be kept in collapsible tubes such as painters use.

DR. HOWARD A. KELLY, of Philadelphia. I am in the habit of carrying corrosive sublimate put up in gelatine capsules, each containing seven grains. This will readily dissolve in hot water, or theca psule may be opened and the corrosive sublimate added to the water.

EXTRA-UTERINE PREGNANCY AND ITS TREATMENT BY ELECTRICITY,

by DR. ELY VAN DE WARKER, of Syracuse.

The following case was reported. Mrs. X., aged twenty-seven years, was married at the age of twenty-four. In 1885, she had an abortion at three months. July 25th she had her last menstruation, and August 28th she was taken with severe pain beginning in the pelvis and extending over the abdomen. There was slight collapse which disappeared under the use of morphia. The next day what was taken for menstruation came on. The attacks of pain continued to recur, and on September 17th the decidua was passed. On examination a small tumor was detected to the right side of the uterus and slightly posterior to it. This was about three inches long and one and a-half inches in diameter. Extra-uterine pregnancy was diagnosed. Severe paroxysms of pain continued to recur and on October 6th, the electrical treatment was commenced. This consisted in the use of the faradic current, a strong induction coil being used. The patient was given ten treatments of half-an-hour's duration, one electrode being pressed against the tumor in the vagina and the other applied externally. At the end of this time there was no apparent change in the pelvic mass, and the pain continued. On October 20th, the treatment was continued one hour, and this was repeated on following days until three applications were made. After the first of these applications the tension of the cyst was found to be less. This was regarded as a sign that the fœtus was destroyed, and was believed to be a sign easier of recognition than a diminution in the size of the tumor. The paroxysmal pain also ceased as soon as the tension diminished. In using electricity for this purpose, the applications should be repeated until the subjective and other evidences of pregnancy disappear. In this case the patient recovered completely, but it was seven months before all traces of the tumor had disappeared.

DISCUSSION.

DR. JOHN C. REEVE, of Dayton, Ohio. I have reported one case of extra-uterine pregnancy cured by electricity. Twenty years ago it was pointed out that sudden and violent attacks of pelvic pain attended with gushes of hæmorrhage almost certainly indicated extra-uterine pregnancy. We have since learned that the expulsion of a deciduous membrane is pathognomonic. In the diagnosis of this condition the first thing to do is to determine the probable existence of pregnancy. An important point in diagnosis is that the tumor in the pelvis manifests signs of activity in its circulation, and it grows rapidly. In my case some six or eight applications were made, the current being as strong as the woman could bear. The first sign of its effect was the diminution in the activity of the circulation of the cyst. In my case it was months before all signs of the tumor disappeared.

DR. P. MARION SIMS, of New York. In a case under my care four years ago, treatment by electric shock was resorted to. The patient was anæsthetized and twenty or thirty shocks from fifteen freshly charged cells were passed through the fœtal mass. Eight or ten applications of this kind were given at intervals of two or three days. At the end of this time there was noticed a decided lessening in the tension of the sac. The use of electricity was then stopped. At the end of one year there was still some thickening of the cellular tissue. The patient's health has been perfect since the operation.

DR. JAMES R. CHADWICK, of Boston. One year ago I had a case of extra-uterine pregnancy which I treated with the constant current constantly interrupted. This was continued three or four weeks before the symptoms ceased. Five weeks later the fœtus protruded into the vagina and was removed.

DR. MARTIN, of Berlin. I have operated on sixteen cases of extra-uterine pregnancy. The treatment by electricity has not met with much favor in Germany. Tubal pregnancy is the most common form of this accident, and this can be easily diagnosed and easily operated on. I have operated on nine cases of tubal pregnancy, and all but one have recovered. In this case the tube had burst and the abdomen was filled with blood before the operation was done. Death resulted from the great loss of blood. The treatment of the other forms of extra-uterine pregnancy will depend upon the symptoms and the course. In these cases the chief objection is the danger of hæmorrhage from the placenta, but I have experienced no difficulty in dealing with the placenta.

DR. MATTHEW D. MANN, of Buffalo. The electrical treatment of these cases has advantages over all other methods of treatment. The dangers connected with the use of electricity where puncture is not made are very slight. If this method fails we can still perform laparotomy.

DR. APOSTOLI, of Paris. Where a case of extra-uterine pregnancy has been diagnosed in its earliest stages, the use of electricity should be tried before resorting to any operative procedure. The faradic current is not to be depended on. I have accidentally used the faradic current on the womb in cases of pregnancy, not knowing that the condition was present, and no abortion has resulted. On the other hand, I have accidentally used the galvanic current under these circumstances and abortion has been induced. I would recommend the introduction of one electrode into the sac, while the other is applied externally and in this way if a strong current is used, the death of the fœtus is assured at one sitting.

DR. JANVRIN, of New York. Last year I reported a case of extra-uterine pregnancy, in which galvanism was employed. The patient died from bursting of the tube after the third application. I have become convinced that the condition of collapse and collicky pain observed in cases of tubal pregnancy, is not due to distension of the sac, but to the rupture of small vessels in the peritoneal covering of the tube. The treatment of these cases is not galvanism, but as soon as we have made our diagnosis, we should on the first evidence of shock and collicky pains, at once remove the tube by laparotomy, and thus give the woman a chance of being a well woman.

DR. ELY VAN DE WARKER, of Syracuse. It has been shown that the use of electricity is not dangerous and if it fails we can resort to laparotomy. If Dr. Janvrin's view is right, we should have hæmatocele,

but in my case where there were repeated attacks of pain, there was no evidence of hæmorrhage. With reference to the recommendation of Dr. Apostoli, I think that the introduction of an electrode into the sac would be as dangerous as laparotomy.

AFTERNOON SESSION.

VAGINAL INJECTIONS IN SIMS' POSTURE,

by Dr. Frank P. Foster, of New York.

The value of large vaginal injections of hot water in the treatment of inflammatory conditions of the pelvis is now recognized. Even when the rules ordinarily laid down are faithfully carried out, it is possible that the efficiency of this measure may be still further increased. The main desiderata are the penetration of the water to a position closely contiguous to the seat of disease and its application in a quantity sufficient to secure the maximum action of the heat. To fulfil these requirements the speaker had used the injections with the patient in Sims' posture or rather in a posture somewhat more prone than that of Sims'. With the woman in the dorsal position the quantity of water in the vagina at one time is decidedly smaller than that which is required to fill the canal when it is distended by atmospheric pressure, as occurs on opening the introitus with the patient in Sims' posture. It seems reasonable to suppose that the effect of a large quantity of water in the vagina will be greater than that of a small quantity. When the injection is concluded this large quantity of water can be retained for some time. The greatest advantage is, however, the gravitation of the abdominal contents towards the diaphragm, thus bringing the hot water in closer relation with the diseased parts. With the ordinary appliances there is some objections to this procedure, but with the vaginal douche, described some years ago by the author, no difficulty is experienced.

A NOTE ON THE TREATMENT OF PUERPERAL ECLAMPSIA,

by Dr. Charles Jewitt, of Brooklyn.

The object of the paper was to call attention to the value of veratrum viride in this class of cases. Its use in convulsive affections has been known for many years, but has not been generally recognized. Veratrum viride, if a reliable preparation is employed, is a safe, prompt and efficient remedy in convulsions. Its value in eclampsia seems to depend on its effect on the vaso motor tonus. Used with proper precautions veratrum viride is perfectly safe. A careful search of the literature reveals no death due to its use in the treatment of convulsions. It is important that the patient should be kept in the recumbent position while taking the drug. The fluid extract of the rhizome is the best preparation. Hypodermic injections of the drug is the only reliable way of bringing the circulation promptly under its influence. The average dose is ten to twenty minims. The smaller dose repeated in half an hour will usually suffice. The guide to the use of the drug is the frequency of the pulse. Experience has shown that no convulsion will occur if the system is sufficiently under the influence of the drug to hold the pulse under sixty per minute. The average time required to develop the effect of a single dose of the drug is half an hour. The average quantity given does not exceed twenty or thirty minims in all. Twenty-two cases were reported in which this plan of treatment had been employed. Of this number six died, three by complication, and three from the eclampsia. In the fatal cases from twenty-four to thirty convulsions had occurred before the treatment was begun. In most cases other remedies, such as chloroform and hydragogues were employed in addition to the veratrum viride. The most unpleasant effect noticed has been nausea and depression, but these were only transient.

DISCUSSION.

Dr. King, of Washington. I suggested the use of this remedy on theoretical grounds some twenty years ago. At that time, I endeavored to account for the convulsions of pregnancy by the pressure of the gravid uterus on the aorta and its branches and the consequent excess of arterial blood in the brain. In primiparæ, in whom this condition occurs most frequently, it is usual for the head to descend below the brim of the pelvis some time before full term is reached. In multiparæ it is the exception for the head to so descend. I would suggest that the difference, or the liability to eclampsia between primiparæ and multiparæ is due to this difference in the position of the head.

Dr. Jewitt, of Brooklyn. The correctness or falsity of Dr. King's views could be demonstrated in a case of this kind by performing version by external manipulation, thus removing the head from the brim of the pelvis. For myself, I have been favorably inclined to the theory that the convulsions are due to anæmia of the brain, resulting from acute spasm of the cerebral vessels. If that theory is true, we can readily see how veratrum viride acts by relieving the spasm.

OFFICERS FOR THE ENSUING YEAR.

President, Dr. Robert Battey, of Rome, Georgia. *Vice-Presidents*, Dr. James R. Chadwick, of Boston, and Dr. A. Reeves Jackson, of Chicago. *Secretary*, Dr. Joseph Taber Johnson, of Washington. *Treasurer*, Dr. Matthew D. Mann, of Buffalo. *Council*, Drs. Frank P. Foster, of New York, C. D. Palmer, of Cincinnati, James B. Hunter, of New York, and R. Stansbury Sutton, of Pittsburgh.

The following new members were elected: Drs. Howard A. Kelly, of Philadelphia, Cornelius Kollock, of South Carolina, Bache McE. Emmet, of New York, and H. T. Hanks, of New York.

The report of the Committee of Conference with reference to the formation of a Congress of American Physicians and Surgeons was received, but the recommendations of the joint committee were *not* adopted.

The next meeting of the Society will be held in Boston, beginning the third Tuesday of September, 1888.

The Society then adjourned.

NEW YORK STATE MEDICAL ASSOCIATION.[1]

THIRD DAY. — MORNING SESSION.

The Treasurer, in his report, said there was a balance of $240, in addition to a building fund of $465.

ADDRESS ON MEDICINE.

Dr. John Cronyn, in this address, took a general view of the field of medicine, referring to the part played by special departments in bringing it to its

[1] Concluded from page 365.

present degree of perfection. It were well if those who entered upon the study of medicine were selected from among those who had already been trained in letters and arts. They should be inspired with a deep reverence for their profession, and a keen sense for its awful responsibilities.

COLD AS A THERAPEUTIC AGENT.

DR. B. L. HOVEY made brief allusion to the use of cold as a therapeutic agent in the past, and recited some cases of different affections in which he had found it of value, especially in asthenic fevers. The practitioner should be extremely cautious in selecting his subject, and the stage of the disease, for its trial. The temperature of the bath, when the bath is employed, should vary; but, as a rule, it should not be less than 65° or 70° F., and, in general, the patient should not be kept in it more than seven to ten minutes. Among the affections in which he had employed cold in some form with benefit, were typhoid fever, heat-stroke, gastritis, hæmatemesis, external hæmorrhage, uterine hæmorrhage, Bright's disease, etc.

THE SMALL-POX IN BROOKLYN; DEFECTIVE ISOLATION AND DEFECTIVE VACCINATION.

DR. NELSON L. NORTH said, in this paper, that the whole recent epidemic of small-pox in Brooklyn, extending over a period of more than one year, had been the result of one concealed case, in the person of a Polish emigrant who had landed at Castle Garden. In criticising the Brooklyn system of vaccination and isolation, it was not because he considered it worse than others, but because he was better acquainted with it. Unfortunately, politics sometimes meddled with sanitation. As remedies, he suggested the passage of more exact and definite laws having reference to the control of patients with contagious diseases, as well as universal and stringent enforcement of laws and ordinances already in existence. Treat small-pox patients more humanely, banish the small-pox hospital, which he regarded as an element of barbarism. There could be isolation, with good nurses, good physicians, well enough paid that they could stay by their patients, take care of them, give them rational treatment, and not leave them to live or to die, as the case might be. The records showed that a greater proportion of those sent to the hospital died than of those who took the risks, concealed themselves, and remained at home, and people believed that some were sent to these pest-houses who had not the disease, there acquired it, and died. It was no wonder that friends tried to conceal their sick from the officers of the law.

Dr. Nelson then discussed the importance of thorough vaccination with pure, fresh matter.

DR. HENRY C. VAN ZANDT then read a paper entitled

SPECIALISTS,

in which he deprecated the tendency for physicians to limit their practice and their knowledge to a single class of diseases. The general profession, he said, had to bear all the sins of all the specialists. It was too common for the unsuccessful general practitioner to become a specialist.

REPORT OF THE NOMINATING COMMITTEE.

The Committee on Nominations reported, for President, Dr. John Cronyn; also a Vice-President and a member of the Council from each of the several districts. The report was accepted, and the gentlemen named elected.

DR. THOMAS MANLEY, of New York, then read a paper on

EPITHELIOMA OF THE VULVA.

The books scarcely referred to epithelioma of the vulva, yet he thought the affection could not be so rare, for he had seen two cases within five years. In both he had operated, with the result of limiting the progress of the disease.

THIRD DAY. — AFTERNOON SESSION.

DISCUSSION ON PLACENTA PRÆVIA.

DR. GEORGE TUCKER HARRISON, of New York, opened the discussion with a paper, in which he, first, alluded to the importance of the study of the behavior of the cervix in the latter part of gestation, and during labor. The older views seemed to have been established on solid basis, but, recently, the arguments brought forward by Bandl seemed to overthrow these in considerable part. The uterus was differentiated into the contracting and thickening upper part, and expanding and thinning lower uterine segment and cervix. During labor, the lower uterine segment was essentially passive, the upper part exhibiting active contractions, the boundary between the two being denominated by Schroeder as the ring of contraction.

The all-important symptom of placenta prævia was, of course, the hæmorrhage, the source of the bleeding being the placental site, and the cause being the separation of the placenta. In treatment, the important problem to solve was to guard the patient against two dangers: bleeding, first; sepsis, second. The special liability of women who were the subjects of placenta prævia to septic infection was explained by the lower situation of the placenta, and by the lacerations so frequently concomitant to this condition, the agent of infection being the examining finger of the accoucher. Anæmia further favored septicæmia.

In treatment, the bipolar method of version introduced by Braxton Hicks was advocated as the best means of fulfilling all the theoretical indications. Zweifel's method of avoiding perforation of the placenta in central implantation was especially commended.

The problem of the future should be to diminish the terrible sacrifice of the child. Zweifel's method might here help, as well as improvements in antiseptic procedures, enabling us to use the vaginal tampon, and rupture the membranes without perforation of the placenta.

IN CASES IN WHICH THE PLACENTA IS PRÆVIA, WHAT ANATOMICAL AND PHYSIOLOGICAL FACTS EXPLAIN THE HÆMORRHAGE OCCURRING DURING PREGNANCY, AND WHY IS HÆMORRHAGE UNAVOIDABLE DURING MISCARRIAGE OR LABOR?

This question was discussed by DR. C. C. FREDERICK and DR. ISAAC E. TAYLOR.

Regarding the anatomical and physiological facts to account for hæmorrhage in placenta prævia, Dr. Frederick reviewed prevalent opinions on the subject including those of Bandl, and said that as to hæmorrhage being unavoidable during labor or miscarriage, he thought it was not.

DR. TAYLOR said the obstetrician based his views upon the demonstrations of the anatomists and upon his own experience by touch during delivery. He had expressed his views based on observation in a brief

paper read before the New York Academy of Medicine, in 1862. He demonstrated by touch alone that the cervix uteri did not coalesce with, or become absorbed into the body of the uterus during the progress of gestation. The cervix had no special physiological function as had the body; it was passive, and remained so until the time of labor. It was prepared physiologically to dilate and expand to admit of delivery of the child, as the body of the uterus was prepared to contract and accomplish the delivery. The placenta is not physiologically related in the circulation of the cervix. The body of the uterus is the only true habitat for the placenta during gestation. The hæmorrhage taking place during labor when the placenta was before the head of the child occurred during diastole, and not during contraction of the uterus, and was from the uterus.

Dr. Darwin Colvin and Dr. S. B. W. McLeod discussed the second question.

IN THIS ANOMALY, WHAT IS THE SOURCE OF HÆMORRHAGE, AND WHAT IS THE MECHANISM OF ITS ARREST?

Dr. Colvin said authors differed in opinion as to the source of the hæmorrhage; he had no definite views, and would not devote much space to its consideration. He had had five cases of placenta prævia, and from his experience therewith, drew conclusions as to the proper treatment, which he thought should be to bring on labor, and not risk the life of the mother with the possible hope of saving the child. The responsibility was too great to temporize. He believed the life of the child was entirely secondary to that of the mother, and that an effort to save both in not bringing on labor, would oftener prove fatal to both.

Dr. McLeod said, in answer to the question proposed, that the source of the hæmorrhage was either the placenta, the uterine sinuses, or branches of the uterine artery or vein, or both, or all combined; but authors differed in their views on this subject. As to the mechanism of its arrest, not treatment, he confined himself to a few points. First, that the partial separation of the placenta be converted into total separation, and the hæmorrhage would then generally cease, the idea being to cut off the blood-supply from the uterus; it also gave opportunity for contraction and closure of the uterine sinuses. The tampon, by obstruction, could only temporarily delay the bleeding. Then there were hæmostatics, such as cold, ergot, etc.

Dr. W. T. Lusk discussed the question

IF PLACENTA PRÆVIA BE DIAGNOSTICATED DURING PREGNANCY, IS THE INDUCTION OF PREMATURE LABOR INDICATED?

If pregnancy had advanced to the seventh month, we should, as a rule, proceed to deliver, for the next hæmorrhage might prove fatal. Previous to the seventh month hæmorrhage usually leads to abortion, the management of which does not differ from the management of abortion occurring without placenta prævia. If hæmorrhage begins before the child is viable, there is little hope of saving it by delay. In most cases the first hæmorrhage is slight it should serve, as a warning. If the physician's suspicions are confirmed he should not leave his patient until she is secure. The practical results of the induction of labor in the hands of its advocates, speak effectually in its behalf. Strict antisepsis is a condition of success. Version is attended by serious loss of infantile life.

Dr. Rollin L. Banta and Dr. John Shrady discussed the question

DURING LABOR, WHEN THE PLACENTA IS PRÆVIA, WHAT MODE OF TREATMENT BEST SUBSERVES THE INTERESTS OF THE MOTHER AND CHILD RESPECTIVELY? IS THAT PLAN OF TREATMENT WHICH BEST CONDUCES TO THE PRESERVATION OF THE MOTHER'S LIFE, INCOMPATIBLE TO A CERTAIN DEGREE WITH THE CHILD'S INTERESTS?

Dr. Banta favored the method of Braxton Hicks, which had been most effectual in saving the mother's life in his practice. He had found less danger from hæmorrhage than from infection, although in his cases antisepsis was observed.

Dr. Shrady thought the statistics which gave the percentage of maternal deaths as one in three, had been overstated, while that of the infantile deaths had been underestimated: it should be eighty rather than sixty-five per cent. He could recall but four cases; they certainly did not belong to cases of central implantation. The watchword, deliver at all hazards, seemed in the days of his pupilage, to have been passed all along the lines of the profession. The best chances of the mother were in the direction of parturition, but in a given number of cases of cervical lateral attachment, the hæmorrhage may cease spontaneously. The interests of mother and child in no sense conflict.

Dr. John G. Orton and Dr. W. H. Robb discussed the fifth question

AFTER CHILD-BIRTH, IN PLACENTA PRÆVIA, WHAT THERAPEUTICAL MEASURES WILL MOST CERTAINLY GUARD AGAINST THE DANGERS OF HÆMORRHAGE AND SEPTIC INFECTION?

Dr. Orton called particular attention to the benefit derived from friction over the nipples, in the arrest of uterine hæmorrhage.

Dr. Robb would remove pillows from under the patient's head, secure firm and continued contraction of the uterus, would give by hypodermic injection fifty minims of Squibb's fluid extract of ergot; if this failed, throw hot carbolized water into the uterus. In two cases he was enabled to keep the uterus contracted only by faradization. In such a case he would suspect laceration of the cervix, and if the patient's condition admitted would repair it. To prevent infection thoroughly empty the uterus, secure firm contraction; it might be necessary to inject hot carbolized water; after this, pass iodoform up to the fundus. Lacerations should be disinfected.

ACUTE MANIA.

Dr. J. C. Hannan read the history of the case in which the question of diagnosis was difficult. The patient was a young man, and had rheumatic symptoms.

Dr. Charles S. Allen then related

A CASE OF INTRA-RECTAL LARVÆ, WITH GASTRITIS, IN AN INFANT.

The author gave the patient's symptoms, and said that in the passages were found peculiar objects, which on microscopical examination, resembled the larvæ from the blow-fly. He thought the source must have been the food ingested.

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MEMBRANOUS OR PSEUDO-MEMBRANOUS ENTERITIS.

THIS disease is looked upon as one of the curiosities of clinical medicine, not only from its uncertain etiology and pathology, but because, while not a common affection, it is, on the other hand, not so rare but that almost every practising physician, sooner or later, meets one or more cases of it. The unusual number of synonyms for it (some students of medical literature have found as many as thirty-six) is accounted for by the fact that, as it did not receive systematic description till the paper of Powell (1818), and each observer, more or less unfamiliar with what had been seen by others, gave a name of his own choice to what was practically his own independent discovery.

With all the cases that have been described of recent years, sufficient to put the tolerably constant symptomatology of the affection fairly upon clinical record, we are, unfortunately, ignorant as to the direct causation and pathology of the disease. That it occurs usually in women of a more or less neurotic tendency, and usually of middle age, is established. Of one hundred cases referred to by Wales in Pepper's "System of Medicine," four only occurred in males, of which two were children. He finds it alike rare in children, and in persons over forty-five years of age. Dr. J. B. Field, of Lowell, in a monograph which well reviews the subject up to the present date, has collected one hundred and eleven cases, in one hundred and six of which the sex was stated. Of these, twenty-one were males, eighty-five females. Of sixty-nine patients, the ages were given, and, of these, the following number belonged respectively to each consecutive decade of life: six, three, seven, eighteen, twenty, twelve, two, one, the greatest frequency, as will be seen, being from forty to fifty years of age.

Dr. Wales, while failing to throw light on the pathology of the disease, yet destroys some previous theories as to its morbid anatomy. His chemical tests showed the exfoliated membranes to be devoid of both fibrin and albumin, and to consist essentially of mucin, in which respect they differ from ordinary croupous and diphtheritic exudates. The microscopical, as well as the chemical characters of the membranes, show them to differ from the exudates of other diseases of the alimentary mucous membrane, and to consist of a production of the muciparous glands (follicles of Lieberkühn).

Are we to consider, as did some of the older observers, that the enteric exudate is the product of a merely local inflammation? or may we look upon it as a derangement of secretion, having its cause in some undefined derangement of the nervous system? That the latter is more likely to be the case seems to us to be shown by certain coincident affections that are observed. We have ourselves seen a patient presenting, at various times, membranous discharges from bowels, bladder, and womb. Now, although the anatomical constitution of the exudate in membranous dysmenorrhœa is entirely different from that in enteritis (as, indeed, must be the case from the difference in the nature of the lining membrane from which are thrown off the two exudates), yet there is reason for supposing that the uterine exudate is a decidua in some way analogous to that of pregnancy, and influenced by the same nervous supply as the ovaries; and it is certainly remarkable, in view of the infrequency of both affections, that six of the cases of membranous enteritis collected by Dr. Field presented, also, uterine casts, or pseudo-membranous dysmenorrhœa.

Indeed, may we not go a step further, and suppose that the roughness of skin so often seen in ill-nourished neurotic patients, and noted by Wales as an accompaniment of this very affection, is dependent on a derangement of the same centres of nervous supply as, by their impairment, have caused the exfoliation in the intestine and the uterus? This view coincides with that of several of the most recent authorities on the subject. Da Costa saying, for instance, that the "depressed general condition, the severe pain, the recurring character and obstinacy of the complaint, the frequent association with uterine disease; the constancy of signs of disordered nervous manifestation, the association, often, with *similar discharges from other outlets*, point to a deeper, more general cause than an enteritis or morbid condition of the intestinal mucous follicles."

If membranous enteritis, then, is an intestinal neurosis, we can understand something of the failure of treatment, so much of which has been directed to the local lesion. Unsatisfactory as all treatment has usually proved hitherto, we have a hint of possible value in the neurotic nature of the affection.

GASTRALGIA.

GASTRALGIA (*cardialgia, gastrodynia, stomach-ache*) is generally regarded as a neurosis affecting the gastric nerves. Romberg distinguished two forms: one, which he called gastrodynia neuralgica, he held to be a hyperæsthesia of the gastric branches of the vagus nerves; the other, which he called neuralgia cœlica,

he regarded as a hyperæsthesia of the solar plexus. Henoch, however, regards this distinction as one that is inapplicable, and worthless in practice. Sawyer, in the *Lancet*, August 13, 1887, would call a case of gastralgia "one in which pain, deep-seated and paroxysmal, in or about the stomach, of a neuralgic or quasi-neuralgic character, is the leading symptom." This pain "must be unaccompanied by gastric or gastro-hepatic catarrh, or physical signs of structural disease either in the stomach or in its neighborhood." A diagnosis of gastralgia (which, of course, is only a symptomatic diagnosis) can only be continued "when repeated physical exploration fails to reveal any other coarser interpretation of the patient's suffering."

Romberg's description of an attack of gastralgia in its severest form has been regarded as typical: "A violent, contracting pain at the pit of the stomach supervenes suddenly, or after being preceded by a sense of oppression; it generally extends to the back; there is a sense of fainting; the face is fallen in; the hands and feet are cold; the pulse is small, cramped, and intermittent. The pain attains such a pitch as to cause the patient to scream out. The region of the stomach is either swelled and distended, like a ball, or, as is more frequently the case, it is drawn in, and the abdominal parietes are tense. It is common to find pulsation at the epigastrium. Pressure is not only well borne, but the patient frequently forces the pit of the stomach against some firm object, or compresses it with his hands. (This Dr. Sawyer regards as a very important diagnostic sign.) Sympathetic sensations occur in many instances in the thorax, under the sternum, or in the pharyngeal branches of the pneumogastric, while they are seldom met with in the superficial parts."

Gastralgia may occur at any age, though it is rare at the extremes of life, and it is most commonly met with in middle life, and in connection with the nervous temperament. Women are more subject to gastralgia than men, and, in the former, it is often due to anæmia, hæmorrhages, or prolonged uterine discharges. In man, gastralgia may be the result of overwork, sexual excesses, or masturbation.

In the treatment of gastralgia, Dr. Sawyer urges the pre-eminent utility of arsenic, which he alleges to be generally curative of this affection. He gives one-twenty-fourth of a grain of arsenious acid, made into a pill, with two grains of extract of gentian, thrice daily, between meals. The use of this remedy must be continued for a few weeks. In a case of moderate severity, he says, no other medicinal treatment is necessary. The gastralgic pains become less frequent and less severe, and recovery is steadily and surely attained. In severer cases, he uses some form of counter-irritation to the epigastrium, the volatile liniment, for instance. In the severest cases, vesication by a fly-blister is of service, the blistered surface to be kept raw with savine ointment. The diet should be generous. A dyspeptic regimen makes a case of gastralgia worse.

Dr. Sawyer gives some hints as to diagnosis which are worth remembering: "(1) Gastralgia is not a wasting disease. (2) It is not safe to diagnosticate cancer of the stomach till you can *feel* the cancer. (3) Do not diagnosticate ulcer of the stomach till you have *seen* blood from the stomach, either in hæmatemesis or melæna. You may take it as a clinical truth that pain arising in the stomach, when the organ is empty and relieved, by the ingestion of food, is almost pathognomonic of its nervous origin and nature."

THE VITAL STATISTICS OF MASSACHUSETTS FOR THE YEAR 1886.[1]

The Forty-Fifth Registration Report of Massachusetts, the first since the sanitary interests of the State were entrusted to a board of health, lunacy and charity, comes to us edited by the restored State Board of Health.

It appears that the year 1886 has been one in which the public health showed a marked improvement over that of the previous years since 1879, the birth-rate being greater and the death-rate less than those of any year within that period. During the year there were recorded 50,788 births, 18,018 marriages and 37,244 deaths, or 1,998 more births, 966 more marriages and 850 less deaths than in 1885. The excess of living births over deaths was 13,544, which is 2,848 more than that of 1855, and also greater than the increase of any year since 1860, except that of 1874. The approximate rates for the year were birth-rate, 25.69; marriage-rate (marriages), 9.12; death-rate, 18.85; excess of births over deaths, 6.84, or one child born alive to 39 persons, one person married to 55, and one death to 53 living persons, and a daily average of 139 births, 49 marriages and 102 deaths.

As compared with other countries we have a high marriage-rate, a low birth-rate and a low death-rate, the rates being smallest in the small country towns.

The average ratio of males to females among living births in Massachusetts, for a period of thirty-three years (105.7), corresponds quite closely with that of all Europe. The excess of children born of foreign parents over those of native parentage was 1,227, which was 316 greater than that of 1885, and also greater than that of any year since 1876, when the excess of births of foreign parentage was 1,800. The number born of mixed parentage was 9,299, which was 427 greater than that of 1885, and also greater than that of any previous year.

There were 1,796 still-births. The 1,034 illegitimate births indicate a ratio of 20.3 per 1000 as compared with 64 (from 29 in Russia to 152 in Bavaria) in Europe.

[1] Forty-Fifth Report to the Legislature of Massachusetts relating to the Registry and Return of Births, Marriages, and Deaths in the Commonwealth, for the Year ending December 31, 1886. Together with the Reports relating to the Returns of Libels for Divorce and to the Returns of Deaths investigated by the Medical Examiners, for the Year 1886. Prepared by the Secretary of the Commonwealth. With Editorial Remarks by Samuel W Abbott, M.D. Boston: Wright & Potter Printing Co., State Printers. 1887.

The marriage-rate for 1886 was .63 lower than the average for the past twenty years, and .71 higher than the average for the past ten years. Comparing the statistics of the last two decades, the rate for the former proves to be 2.69 greater than that of the latter period. There has been a decrease in the marriage-rates of nearly all European countries during the past twenty-five years, and also in four New England States having registration, — Massachusetts, Rhode Island, Connecticut and Vermont.

The whole number of divorces granted during the year was 601, which was 45 less than the number granted in 1885, and 105 more than the yearly average of the twenty years ending with 1886. Of the whole number, 125, or 20.8 per cent., were granted on account of adultery; for desertion 45.7; for intoxication 16.3; for extreme cruelty 5.3; for cruel and abusive treatment 10.3; and for neglect to provide maintenance 1.2. Four hundred and twenty-one, or 70.0 per cent. of the whole number, were granted on complaint of the wife. Of the divorces decreed on account of adultery, 53.6 per cent. were granted to women; for desertion, 61.1 per cent.; for intoxication, 85.7 per cent.

The infant mortality, 21.07 (percentage of deaths under one to total deaths) was greater than that of any year since 1875 (22.04) and also greater than the average of fifteen years from 1872 (20.94). The average age of all persons at death was 34 years, the extremes, excluding the two small island counties, being 48.63 in Barnstable County and 30.29 in Suffolk.

There has been, since 1876, an almost steady decrease in the ratio to all deaths, of deaths from so-called zymotic diseases (from 28.6 to 18.5). In constitutional diseases the change has not been so marked, 25.1 to 24.2; while in "local" diseases, there has been a nearly constant increase from 31.7 to 42, the more striking changes being shown in the first two of the following tables. The population increased from 1875 to 1885 by census from 1,651,912 to 1,945,141.

From 1867 to 1886, the reported death-rate from pulmonary consumption has decreased from 3.25 to 2.98 per 1000 of population, while from cancer in the same time, it has increased from 0.29 to 0.56. The very striking increase in mortality from brain disorders for the last six census years is shown in the third of the following tables:

DEATHS FROM PROMINENT "ZYMOTIC" DISEASES.

Years.	Dysentery.	Typhoid Fever.	Whooping-Cough.	Croup.	Diphtheria.	Measles.	Scarlatina.	Cholera Infantum.	Small-pox.	Total.
1877	580	814	369	544	2,634	135	467	1,267	26	7,496
1878	602	679	409	583	1,934	305	404	1,573	2	6,481
1879	372	637	302	539	1,744	19	859	1,349	8	5,830
1880	395	882	230	625	1,769	256	574	2,118	38	6,867
1881	360	1,072	247	677	1,706	230	397	1,861	47	6,567
1882	398	1,079	265	491	1,280	68	318	2,159	45	6,103
1883	336	860	197	530	1,024	321	575	1,941	5	5,796
1884	254	875	410	562	1,084	75	627	2,084	3	5,971
1885	253	768	184	520	1,003	313	587	1,532	19	5,499
1886	243	800	271	505	1,053	130	331	1,931	0	5,264

DEATHS FROM PRINCIPAL LOCAL DISEASES.

Years.	Apoplexy.	Paralysis.	Insanity.	Convulsions.	Heart Diseases.	Bronchitis.	Pleurisy.	Pneumonia.	Peritonitis.	Bright's Disease, Nephritis and other Kidney Dis.
1877	541	843	112	536	1,391	397	82	1,972	126	546
1878	562	895	152	562	1,509	548	80	2,171	104	634
1879	663	932	118	612	1,698	690	90	2,647	276	711
1880	746	933	142	705	1,822	780	98	3,076	270	723
1881	718	998	129	691	1,937	843	88	2,967	284	843
1882	706	1,047	153	687	2,025	867	102	2,932	307	900
1883	784	1,056	183	757	2,153	934	104	3,045	339	987
1884	857	1,119	166	702	2,117	949	65	2,646	307	1,032
1885	1,003	1,132	188	721	2,227	1,131	138	3,408	350	1,128
1886	973	1,173	151	709	2,469	1,020	100	2,836	320	1,161

Mortality-rates per 10,000 from —	1860.	1865.	1870.	1875.	1880.	1885.
Apoplexy, . . .	1.93	2.08	2.70	2.78	4.19	5.12
Softening of the brain, . . .	.36	.33	.58	.59	.68	.65
Paralysis, . . .	3.26	3.78	4.32	5.43	5.23	5.82
Insanity, . . .	.58	.59	.71	.71	.71	.96
Cephalitis and brain disorders, . . .	5.93	7.61	6.04	6.91	6.19	7.46
Totals, . . .	12.06	14.39	14.35	16.42	17.00	20.01

From ague and remittent fever the number of deaths reported in 1886 was 32, of which number 20, or 62.5 per cent., occurred in the five western countries having but 26 per cent. of the population. The greatest number, 8, occurred in Hampden county. Although serious epidemics have occurred in eastern Massachusetts in 1884, 1885 and 1886, they have thus far had but little effect upon the death-rate.

It is gratifying to learn that the improvement of later years in the proportion of deaths without reported causes of death continues, having reached, in 1886 the lowest percentage, namely, 1.21 of all deaths.

The returns of the medical examiners indicate that 1,378 cases were examined in 1886 as compared with 1,278 in 1885. There were 202 autopsies. Of the 1,378 deaths investigated 47 were from homicide, 157 from suicide, 678 from accident or negligence, 233 from apoplexy and heart disease, 54 from alcoholism. It is one of the small advantages of the new method that there is a considerable less expense involved in it than in the old coroner system.

The report is larger than usual, from additions to the editorial portion, and will well repay careful study.

MEDICAL NOTES.

— Private letters, published in New York, from Colon, state that there have been many deaths from yellow fever in the latter city, and the disease still prevails. Absolutely no precautions are taken to vents its spread. The city is filthy to a degree. Despite the constant presence of yellow fever, certain consuls grant clean bills of health to steamers trading with or touching at American ports. Advices from Belize,

British Honduras and Livingston, Guatemala, report several cases of yellow fever at both places.

Eighty cases of yellow fever had been treated at Tampa, Fla., up to October 14th, with twelve deaths. The citizens are aroused, and have organized and equipped a hospital. The case of fever at Palatka was that of a Tampa fugitive. There are no other cases in the place.

The Marine Hospital Bureau has received a dispatch, October 14th, from Dr. Porter, President of the Key West Board of Health, reporting his arrival at Tampa with four nurses. He says that the customary tests prove beyond all question that the disease is yellow fever. Deputy Collector Spencer telegraphs, under the same date, "There were three deaths last night, and several new cases to-day. The local authorities are at last acting and taking measures to disinfect."

—The local Health Councillor of Carlsruhe published under date of February 28, 1887, an analysis of "Warner's safe cure," which appears to have found a place in the shops of Germany. "It is," he says, "an infusion of liverwort flavored with oil of wintergreen, and containing a small quantity of saltpetre, glycerin and alcohol; to be taken along with this are pills made of aloes and coated with sugar."

— The Ameer Abdul Rahman is not a pleasant patient, at least according to the stories told in some of the Indian bazaars. It seems that that magnate has been recently suffering from an ulcer in the back. His physician prescribed some application, which, as is not infrequent in medical practice, had the result, for the time being, of increasing the pain. After a night of enhanced agony, the Ameer arose, sent for the luckless doctor, and had his head struck off there and and then.

— Bardach, in the *Annales de l'Institut Pasteur*, as quoted by the *Medical Press*, relates the case of a woman who was bitten by a rabid wolf. After the bite she ceased to suckle her infant. A small quantity of the milk was taken from the mother's breast and injected into the cranial membranes of dogs and guinea-pigs. All the animals injected were seized with the typical madness. The mother died, but the child that was taken from the breast after the bite still lives and appears perfectly healthy.

— We learn from the *Indian Medical Gazette* that a renewed attempt is to be made to grow ipecacuanha on the Nilgiri Hills, as this medicine is largely used in India for dysentery and other diseases, and a London medical paper reports that the stock in first hands in London, the chief emporium for the drug, was very low and would probably all be taken out of the market at an early date. The price also had risen very considerably, and it had become a matter of doubt whether the Government would be able to purchase the quantity annually required for India. Experiments have been made for some years in the growth of the plant in the Botanical Gardens at Utakamund and elsewhere, which have shown that, though not difficult to propagate, it is by no means easy of culture, and can only be successfully grown in a limited area, possessing suitable climatic conditions. It is considered improbable that the cultivation would be taken up to any extent by private individuals, although its price would make it very remunerative. The Government has, therefore, on the recommendation of the Surgeon-General and the Government Botanist, decided to take up the cultivation on its own account on a comparatively small scale, and the Government Botanist has been directed to plant out at Nilambar all the plants which he can procure at present. Before, however, undertaking the cultivation on a larger scale, the Government hope that private enterprise may be induced to come forward.

BOSTON AND NEW ENGLAND.

— The Berkshire District of the Massachusetts Medical Society, celebrates by a dinner October 27th, the one hundredth anniversary of the formation of an association for the improvement of the art of Physick. The dinner occurs at the American House, Pittsfield, Mass., October 27th, at 1.30 P.M.

— The extra-hospital training school for nurses at Waltham, Mass., of which an account has already appeared in our columns, has developed into a hospital, to be known as the Waltham Cottage Hospital. It was formally opened October 10th. Patients received will secure the best of care at a very small price, and, when the circumstances are known to require it, a still smaller sum will be charged, and, indeed, nothing at all, if it shall seem advisable to the Trustees. The services of the physicians connected with the hospital are furnished, but, if a patient shall so desire, those of any other physician may be had. The hospital and training school will be, as in the past, under the immediate care of Miss May Hackett, to whose zeal and energy much of its already great success it due. The support of the institution will still be, in large part, dependent upon contributions from those benevolently inclined. Collections in aid of the hospital were taken in most of the local churches the last two Sundays.

— A large number of horses in Cambridge were, some days ago, adjudged by the Cattle Commissioners to be affected with glanders. A veterinary employed by the Railroad Company declares that the disease is not glanders, but "malaria," induced, he says, by the conditions obtaining in the low flats adjoining the stables. Other veterinaries employed by them, while not agreeing with the malaria theory, are said not to believe that at most over a dozen of the 169 horses confined as being suspicious cases, have glanders. One day, last week, the Cattle Commissioners examined ninety-five horses in the Summer Street (Somerville) stables of the Cambridge Railroad Company, and confined eleven of them. The next day, they re-examined the horses confined, and also the horses quarantined in the Eighth Street (East Cambridge) stables of the Company, and kept them nearly all in confinement.

NEW YORK.

— The twelfth annual commencement of the Training School for Society of the Charity, Maternity, and Infant's Hospitals, on Blackwell's Island, was held October 12th. There were sixteen graduates, and the diplomas were presented by Dr. Alexander W. Stein, President of the Medical Board of Charity Hospital. Dr. Thomas H. Allen presented the prizes, and addresses were made by the Rev. Alexander Mackay-Smith, Dr. Robert W. Taylor, and others. An informal reception and luncheon were given their guests by the pupils of the school, and in the evening a social entertainment, with dancing and refreshments, took place under the auspices of the Medical Board.

— At a meeting of the Society of Medical Jurisprudence and State Medicine, held October 14th, Dr. F. N. Brill read a paper entitled, "Pasteur's Fiasco, and the British Parliamentary Report," in which he narrated the experiments made by himself and Dr. Spitzka, in which it is claimed that all the symptoms of rabies produced by Pasteur's inoculations in the rabbit and dog, can be caused by injecting various innocuous substances under the dura mater of these animals.

— Dr. H. G. Piffard has devised a method of taking instantaneous photographs at night by the light of a flash of a pistol charged with gun-cotton and powdered magnesium, and gave a practical demonstration of its use at a meeting of the Society of Amateur Photographers held October 11th.

— Dr. Henry Cook, the oldest and one of the most prominent physicians in Suffolk County, died at Sag Harbor, Long Island, October 9th. He was born in England, in 1814, but for more than forty years has resided in Sag Harbor, where he was most highly esteemed by the entire community.

— No new cases of cholera have developed among the *Alesia's* passengers quarantined on Hoffman's Island, since October 7th. The quarantine is still very strictly enforced, and will not be raised until all danger of infection is over.

Miscellany.

BOSTON DISPENSARY.

THE statistics of this institution for the year ending September 20, 1887, are as follows:

The number of new patients treated at the central office is 19,139, classified as follows:

Medical Department.—Men, 2,722; women, 3,991; children, 2,690; total 9,403.

Surgical Department.— Men, 1,398; women, 810; children, 525; total, 2,733.

Skin Department.— Men, 465; women, 382; children, 207; total, 1054.

Department for Diseases of the Nervous System.— Men, 398; women, 377; children, 64; total, 839.

Department for Diseases of Women.— Women, 553; total, 553.

Department for Diseases of the Throat and Nose.—Men, 504; women, 557; children, 425; total, 1,486.

Department for Diseases of the Eye. — Men, 66; women, 151; children, 118; total, 335.

Department for Diseases of the Ear.— Men, 130; women, 167; children, 171; total, 468.

Department for Diseases of the Genito-Urinary System. — Men, 769; women, 3; children 2; total 774.

Department for Diseases of the Rectum.—Men, 67; women, 46; children, 3; total, 116.

Orthopedic Department. — Men, 14; women, 20; children, 74; total, 108.

Dental Department. — Men, 276; women, 397; children, 597; total, 1,270.

The number of visits made by patients, old and new, at the Central office is 42,489, classified as follows: Medical, 18,160; surgical, 24,329; total, 42,489. The number of patients treated in the Districts is 13,072, including 315 cases of midwifery, classified as follows: Men, 1,997; women, 4,527; children 6,548; total, 13,072. The results of treatment in the Districts are as follows:

Discharged, cured or relieved	11,759
Removed to Hospitals	967
Died	331
Remaining under Treatment	66
	13,123
Under treatment at last annual report	51
	13,072
The number of patients treated at the Central Office and in the Districts is	32,211
Number of cases of midwifery attended during the year	315
Number of cases of midwifery attended since July, 1856	5,039
Whole number of patients since October, 1796	963,555
Whole number of patients since July, 1856,	844,752
Average daily attendance at Central Office	138
Largest number present any one day, May 9th	242
Smallest number present any one day, December 7th	55
Number of recipes put up at Central Office during the year	46,572
Number of house recipes	38,198
Number of district recipes	8,374
Largest number of recipes put up in one day, May 9th	280
Smallest number of recipes put up in one day, December 5th	66
Number of paid recipes	43,540
Number of free recipes	3,032
Number of paid dental patients	1,152
Number of free dental patients	93

The list of medical officers for the ensuing year is as follows:

Surgeons: Drs. J. Foster Bush, George H. Monks, Edward O. Otis, William M. Conant. Physicians: Drs. Robert Disbrow, Joseph P. Oliver, John Dixwell, Thomas M. Rotch, Claudius M. Jones, Harold Williams, James J. Minot, George M. Garland, Edward M. Buckingham, Vincent Y. Bowditch, William

C. Emerson, Robert B. Dixon, Russell Sturgis, Rufus A. Kingman, Thomas F. Sherman, James S. Howe, Howard M. Buck, Frederic M. Briggs.

Department for Diseases of the Skin.—Physicians: Drs. Francis B. Greenough, Abner Post. Department for Diseases of the Nervous System. — Physicians: Drs. William N. Bullard, Philip C. Knapp. Department for Diseases of Women.— Physicians: Drs. Francis H. Davenport, John W. Elliot, John B. Swift, George G. Hayward. Department for Diseases of the Throat and Nose. — Physicians: Drs. Thomas A. DeBlois, John W. Farlow, Edward W. Warren, Frederick M. Turnbull. Department for Diseases of the Eye. — Physician: Dr. William D. Hall. Department for Diseases of the Ear. — Physicians: Drs. George A. Leland, Henry L. Morse. Department for Diseases of the Genito-Urinary System. — Physicians: Drs. George H. Tilden, Francis H. Watson, Hayward W. Cushing, Gardner W. Allen. Department for Diseases of the Rectum.—Physicians: Drs. Walter J. Otis, William D. Hodges.

Obstetric Department.—Physician: Dr. Charles M. Green.

Orthopedic Department. — Physician: Dr. Royal Whitman.

Dental Department. — Dentist: Joseph E. Waitt, D.M.D.

District Physicians: No. 1. Dr. Willis B. McMichael. No. 2. Dr. Henry Jackson. No. 3. Dr. Charles W. Townsend. No. 4. Dr. George G. Sears. No. 5. Dr. John A. Jeffries. No. 6. Dr. George E. Richards. No. 7. William F. Temple. No. 8. Winfied B. Bancroft. No. 9. George Haven.

Apothecary: Frederick H. Dudley. Assistant Apothecary: Joseph S. Lang.

WILLIAM H. H. HASTINGS, M.D., *Supt.*

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 8, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	—	—	—	—	—	—	—
Philadelphia	993,801	362	121	14.00	12.88	3.92	3.08	5.32
Brooklyn	745,108	296	116	22.78	11.22	5.78	2.72	9.86
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	126	48	22.78	11.22	5.78	2.72	8.86
Boston	400,000	182	72	12.75	16.60	3 85	3.30	4.95
New Orleans	242,750	97	22	15.00	—	—	—	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	78	20	15.36	15.36	5.12	3.84	3.84
Pittsburgh	210,000	81	32	31.98	10.07	4.92	4.92	18.45
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	56	35	23.36	5.34	8.90	1.78	5.34
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	18	7	38.88	11.11	16.66	5.55	—
Charleston	60,145	40	14	15.00	15.00	7.50	2.50	2.50
Portland	40,000	—	—	—	—	—	—	—
Worcester	68,383	29	12	6.90	20.70	6.90	—	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	23	12	34.80	13.05	21.75	8.70	4.35
Fall River	56,863	29	13	30.03	10.35	24.15	3.45	3.45
Lynn	45,861	12	2	25.00	16.66	8.33	8.33	8.33
Lawrence	38,825	12	5	16.66	16.66	8.33	—	8.33
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	18	8	16.66	5.55	—	5.55	11.11
Somerville	29,992	14	7	42.94	7.14	—	7.14	7.14
Salem	28,084	9	3	44 44	11.11	11.11	11.11	22.22
Holyoke	27,894	7	0	14.28	14.28	14.28	—	—
Chelsea	25,709	7	5	28.56	—	—	—	—
Taunton	23,674	7	0	14.28	28.56	—	14.28	—
Haverhill	21,795	7	3	—	—	—	—	—
Gloucester	21,713	7	2	—	—	—	—	—
Brockton	20,783	6	1	—	16 66	—	—	—
Newton	19,759	5	1	20.00	20.00	—	—	—
Malden	16,407	—	—	—	—	—	—	—
Fitchburg	15,375	5	0	20.00	20.00	20.00	—	—
Waltham	14,609	8	0	12.50	12.50	—	—	—
Newburyport	13,716	7	0	—	14.28	—	12.50	—
Northampton	12,896	3	1	—	66.66	—	—	—

Deaths reported 1,551: under five years of age 562; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 284, consumption 186, lung diseases 125, diphtheria and croup 100, diarrhœal diseases 89, typhoid fever 43, malarial fever 23, scarlet fever 14, whooping-cough nine, cerebro-spinal meningitis five, measles one. From malarial fever, New Orleans seven, Brooklyn and Baltimore five each, District of Columbia two, Philadelphia, Nashville, Charleston and Newton one each. From scarlet fever, Brooklyn six, Somerville and Chelsea two each, Philadelphia, Boston, Baltimore and Nashville one each. From whooping-cough, Philadelphia four, Brooklyn, Baltimore, Pittsburgh, Nashville and Somerville one each. From cerebro-spinal meningitis, Baltimore, Pittsburgh, Milwaukee, Somerville and Haverhill one each. From measles, Milwaukee one.

In the 23 cities and larger towns of Massachusetts with an estimated population of 1,029,379, the total death-rate for the week was 20.71 against 19.26 and 23.31 for the previous two weeks

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending September 24th, the death-rate was 16.2. Deaths reported 2,872: infants under one year of age 765; diarrhœa 185, scarlet fever 72, whooping-cough 61, fever 54, diphtheria 35, measles 29, small-pox (Sheffield) four.

The death-rates ranged from 10.0 in Derby to 26.4 in Blackburn; Birmingham 14.5; Bradford 15.8; Hull 19.3; Leeds 16.9; Leicester 13.8; Liverpool 18.7; London 14.4; Manchester 23.5; Newcastle-on-Tyne 20.9; Nottingham 13.5; Sheffield 19.1.

In Edinburgh 17.3; Glasgow 17.7; Dublin 30.6.

The meteorological record for the week ending October 8, in Boston, was as follows, according to observations furnished by Sergeant O. B. Coie, of the United States Signal Corps: —

Week ending Saturday, Oct. 8, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration: Hrs. & Min.	Amount in Inches.
Sunday,... 2	29.82	61.0	69.0	57.0	94.6	76.0	91.0	87.0	W.	S.W.	W.	6	10	6	O.	O.	C.	*2	.05
Monday,.. 3	29.70	58.0	69.0	53.0	91.0	97.0	97.0	95.0	W.	S.W.	S.	8	10	3	O.	R.	T.	5	.08
Tuesday,.. 4	29.55	59.0	70.0	51.0	97.0	55.0	85.0	98.0	W.	S.	S.	3	14	6	G.	C.	O.	1½	.02
Wednes.,.. 5	29.69	54.0	64.0	50.0	84.0	75.0	91.0	83.0	W.	S.	S.W.	10	5	3	O.	F.	C.		
Thursday, 6	29.92	57.0	66.0	48.0	83.0	58.0	77.0	71.0	N.W.	N.W.	W.	12	8	6	C.	F.	O.		
Friday, ... 7	30.04	64.0	73.0	55.0	77.0	46.0	69.0	74.0	W.	W.	N.W.	14	14	11	C.	F.	F.		
Saturday,. 8	30.04	61.0	73.0	51.0	69.0	54.0	76.0	66.0	N.W.	W.	S.E.	8	6	1	C.	F.	F.		
Mean, the Week.	29.823	59.1						82.0										8½	.15

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIESOF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 8, 1887, TO OCTOBER 14, 1887.

ALEXANDER, CHARLES T., lieutenant colonel and surgeon. Relieved from duty as attending surgeon and examiner of recruits at St. Louis, Mo., and ordered for duty at Fort Meade, Dak. S. O. 235, A. G. O., October 8, 1887.

CUNNINGHAM, T. A, captain and assistant surgeon. Died October 12, 1887, at Fort Lewis, Col.

CHANGE OF STATION.

HALL, WM. R., captain and assistant surgeon. From Davids Island to Fort Custer, Mont.

PRICE, C. E., captain and assistant surgeon. From Fort Custer to Fort DuChesne, U. Ter.

SUTER, WM. N., first lieutenant and assistant surgeon. From Washington Barracks to Fort McKinney, Wyo.

WEISEL, D., captain and assistant surgeon. From Fort McKinney to Fort Sill, Ind. Ter.

HORTON, S. M., major and surgeon. From Fort Riley to Fort Adams, R. I.

BACHE, D., major and surgeon. From Fort Adams to Fort Riley, Kans.

KIMBALL, J. P., major and surgeon. From West Point to Fort Elliot, Tex.

NEWTON, R. C., captain and assistant surgeon. From Fort Elliot to David's Island, N. Y. H.

HEIZMANN, C. L., major and surgeon. From Fort Ontario to West Point, N. Y. S. O. 232, A. G. O., October 5, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING OCTOBER 8, 1887.

IRWIN, FAIRFAX, passed assistant surgeon. Granted leave of absence for twenty-five days, October 5, 1887.

GUITERAS, JOHN, passed assistant surgeon. Granted leave of absence for seven days, September 28, 1887.

NORMAN, SEATON, assistant surgeon. Upon expiration of leave of absence to rejoin station, New York, October 4, 1887.

SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY. — A stated meeting will be held at Rockland Hall, 2343 Washington Street, Roxbury, on Tuesday, October 25, 1887, at 2 P.M. The Board of Censors will meet at 1 P.M. Order of Business: Reading of Records; Reports from Committees; Election of Nominating Committee; Incidental Business; Communications.

S. ALLEN POTTER, M.D., *Secretary.*

DEATH.

Died at Duxbury, Mass., October 15, 1887, James Wilde, M.D., M.M.S.S., aged seventy-five years.

BOOKS AND PAMPHLETS RECEIVED.

Surgical Relations of the Ileo-Cæcal Region. By J. Mc F. Gaston. (Reprint.)

Pathology, Diagnosis and Treatment of Perforation of the Appendix Vermiformis. By J. Mc F. Gaston, M.D. (Reprint.)

Persistent Vomiting during Labor Relieved by Anæsthesia. By Samuel C. Busey, M.D., of Washington, D.C. 1887. (Reprint.)

Transactions of the American Otological Society, Twentieth Annual Meeting. Pequot House, New London, Conn., July 19, 1887. Vol. 4, Part 1.

Transactions of the Medical Society of the State of West Virginia. Twentieth Annual Session, held at White Sulphur Springs, July 13, 14, and 15, 1887.

The Burton Case. By W. Thornton Parker, M.D. (Munich), Newport, R. I., Medical Examiner 3d District, R. I., Member of the American Public Health Association, etc. 1887. (Reprint.)

Pathology, Diagnosis and Treatment of Perforation of the Appendix Vermiformis. By J. McF. Gaston, M.D., Professor of Surgery, Southern Medical College, Atlanta, Ga. 1887. (Reprint).

Ovarian Tumors, and Remarks on Abdominal Surgery with the Results of Fifty Cases. By Edward Borck, A.M., M.D., Professor of Surgery, etc. Second Revised Reprint Edition. St. Louis, Mo. 1887.

A Paper on Imported Carlsbad Mineral Waters and Sprudel Salz. By A. L. A. Toboldt, M.D., Assistant Demonstrator of Pharmacy, University of Pennsylvania, Editor of the "Medical Clippings and New Chemicals," etc.

Biology of Tumors. A Lecture delivered at the College of Physicians and Surgeons, Chicago, Ill. By N. Senn, M.D., Ph.D., Professor of Principles and Practice of Surgery and of Clinical Surgery in the College. 1887. (Reprint.)

Massage: Principles and Practice of Remedial Treatment by Imparted Motion. Mechanical Processes. By George H. Taylor, M.D., Author of "Health by Exercise," "Health for Women," "Pelvic and Hernial Therapeutics," etc. New York: John B. Alden. 1887.

Successful Removal of Two Osteomata of the Orbit: One originating in the Frontal, and the other in the Ethmoidal Cells: with a History of Osteomata of the Neighboring Pneumatic Cavities of the Orbit. By Joseph A. Andrews, M.D., Ophthalmic Surgeon to Charity Hospital, New York. 1887. (Reprint.)

Differential Diagnosis. A Manual of the Comparative Semeiology of the more Important Diseases. By F. DeHavilland Hall, M.D., Assistant Physician Westminster Hospital, London. Third American Edition thoroughly revised and greatly enlarged. Edited by Frank Woodbury, M.D., etc. Philadelphia: D. G. Brinton. 1887.

N. W. Ayer & Son's American Newspaper Annual for 1887, containing a carefully prepared List of all Newspapers and Periodicals in the United States and Canada, arranged by States in Geographical Sections, and by Towns in Alphabetical order. Giving under this head the name of the paper, the issue, general characteristics, year of establishment, size, subscription price and circulation, also the names of Editors and Publishers, and the street address (when known) in all cities of above 50,000 population. Enumerating the various Press and Editorial Associations throughout the United States and Canada, together with lists of their Officers, etc.

Original Articles.

CONGENITAL TALIPES EQUINO-VARUS.[1]

BY CHARLES L. SCUDDER.

DESCRIPTIVE ANATOMY.

Case I. The fœtus from which this specimen was obtained was born at term, measured forty-eight centimeters in length, weighed three thousand, nine hundred and forty grammes, and presented the following pathological appearances: A posterior hydrencephalocele, three small supernumerary spleens, a fleshy knob upon the end of the tongue, a cleft uvula and epiglottis, a fibrous appearance at the edge of the liver, six fingers upon each hand, six toes upon each foot, clubbed hands, and double talipes equino-varus.

EXTERNAL CHARACTERS.

Six toes are present. The anterior portion of the foot is turned downward and inward. The sole of the foot looks inward, and a little backward and upward. The inner border looks upward. The outer border looks backward. The heel is pointed and slightly raised. The tuberosity of the os calcis can be felt with difficulty. The internal malleolus is less prominent than usual. The external malleolus is also less distinctly marked than in a healthy foot. The length of the foot is a little shortened. The dorsum of the foot is more or less irregular. The foot cannot be restored to its natural form and position by manipulation.

CHANGES FOUND UPON DISSECTION.

The bones. — Os calcis. This bone occupies an oblique position, the tuberosity being drawn upward by the muscles of the tendo Achillis, so that it is in close proximity to the fibula side of the leg. Adams describes a lateral change in direction, the anterior extremity of the bone being directed obliquely forwards and inwards, and its tuberosity inclined, also, toward the fibula side of the leg. It seems unnecessary that there should be any such lateral deviation in order to put the tuberosity of the os calcis in close proximity to the fibula. The astragalus is displaced from its articulation forward, and thus carries the os calcis with it. The normal position of the tuberosity of the os calcis is almost directly behind the fibula. Therefore, when carried forward by the displaced astragalus, it must be brought into closer proximity to the fibula.

I notice a slight tendency to arching of the os calcis in the direction of its length, the convexity being outwards. The articulating surface, with the cuboid, is unaltered in direction.

The astragalus. The neck of the astragalus is turned inward, instead of being straight.

The external lateral articular facet is extended forward a little out of the joint.

I cannot state as to the relative degree of development of the internal and external facets, for the bones are articulated.

The Italian anatomist, Scarpa, in 1803, describing the changes in the bones in his memoir upon congenital club-foot, does not admit any malformation of this bone, other than that arising from a persistence of the deformity through several years' use.

Dr. Little, an English anatomist and surgeon, after the dissection of thirty specimens of varus, agrees, with Scarpa, that the astragalus is scarcely altered in position or in form.

In 1852, Adams, an English surgeon, described very important alterations in the astragalus. In the specimen under consideration, the bone is tilted a little downward and forward, and slightly displaced from its socket, the latter fact allowing the os calcis to come forward to the fibula, as mentioned above.

Adams finds that the astragalus is rotated outward, so as to bring the external lateral facet firmly in contact with the fibula. There is no evidence of this rotation in the present specimen.

Adams finds, too, that the line of the ankle-joint, when opened from the front, presents an oblique direction upward and outward, corresponding to the rotation outward of the astragalus.

In the specimen, there is a slight inclination of the line of the joint upward and outward, toward the fibula. There is no rotation of the astragalus according to which Adams explains the deviation in the line of the joint.

Figure 1 is from a section through the malleoli of the left foot of the fœtus from which this dissected specimen comes. The foot is in the position of equino-varus.

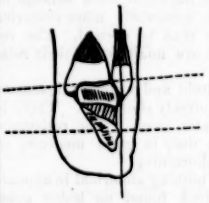


Fig. 1.



Fig. 2.

Figure 2 is from a section through the malleoli of an ankle from a fœtus of six months. The position of the foot is normal. The inclination of the line of the joint is slightly upward and outward. By comparing these figures, it is seen that the inclination of the line of the joint upward and outward is no greater in the varus foot at term than in the normal fœtal foot. In making comparisons, feet of the same age should be used, if it is possible. The above comparison is a legitimate one, however, for the difference in age is but three months, the one being normal and fœtal, the other being a decided varus, and at term.

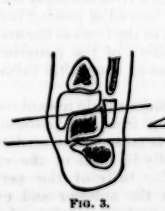


Fig. 3.



Fig. 4.

Rupprecht has made sections similar to the above. One was through the ankle of a new-born child; the other was through the same parts of a club-foot of two-and-one-half years. See Figures 3 and 4. He finds that the normal ankle-joint line is inclined a little

[1] The Boylston Prize Paper of the Boylston Medical Society of Harvard University for the year 1887.

upward and outward, while the line of the club-foot joint is very much so inclined.

After looking at the joints of the above specimens, and at a dissected case of acquired club-foot, a drawing of which I have not made, my conclusions are:

(1) That there is a normal inclination of the line of the ankle-joint upward and outward toward the fibula. (2) That, in moderate cases of congenital equino-varus, the line of inclination of the ankle-joint is about as in a normal ankle. (3) In severe cases, and especially in those in which the foot has been used in walking, the inclination of the line of the ankle-joint is greater than in moderate cases of varus.

The scaphoid is drawn inwards and upwards, and lies in close proximity to the internal malleolus.

The cuboid. Mr. Adams thinks that a displacement of this bone in the infantile varus is unnecessary, and he does not find any. In this specimen, the outer edge of the cuboid is depressed from its normal relation to the os calcis. In fact, I think the same change in position has occurred here that Mr. Adams describes under adult varus, a rotation of the cuboid upon its calcaneal articulation.

The malleoli. The diminished prominence of the internal malleolus noticed before dissecting is found to be due to the presence of the navicular bone beneath it. The external malleolus is apparently more posterior to the internal malleolus than is normal. The remaining bones of the foot are unaltered in their relations to each other.

The ligaments. The deltoid and posterior ligaments of the ankle-joint are adaptively shortened. There is no shortening of the plantar fascia. The resistance to complete reduction is due, in great measure, to ligamentous rigidity and shortening.

The muscles. There is nothing abnormal in appearance. Parker and Shattock found no lesion upon microscopic examination of muscular tissue from cases of congenital talipes equino-varus.

The tendons. All of the tendons in front of the ankle-joint are inclined to the inner side of the leg. The tendons behind the inner malleolus preserve their normal relations.

The tendons that normally are behind the external malleolus lie upon, and in front, of that bone. The tendon of the tibialis anticus is much shorter than usual, and is removed to the inner side of the joint. The tendon of the extensor proprius pollicis lies along the inner side of the first metatarsal bone. The tendon of the tibialis posticus is very tense, and, in passing to its insertion, goes directly down from the inner malleolus, and only a little forward, instead of passing beneath it downwards and forwards, to the front of the malleolus.

This change in the position of the posterior tibial tendon is noted in all cases of congenital varus and is of importance.

The tendo Achilles inclines a little toward the fibula and is slightly more distant from the posterior tibial vessels than normal. It is tense. The tendon of the peroneus longus lies wholly in front of the external malleolus. The muscular belly of the peroneous brevis completely covers the anterior and external surfaces and in part the posterior surface of the external malleolus. The peroneous brevis, therefore, lies beneath the tendon of the peroneous longus. The tendons of the peroneous brevis and longus, both lie in front of the peroneal tubercle of the os calcis. The vessels and nerves are in their normal relations.

CASE II. A double congenital talipes equino-varus.

The right foot.— External characters. The toes point directly inward and upward. The dorsum of the foot looks forward. The sole of the foot looks backward. The internal malleolus can with difficulty be felt. The deformity cannot be completely corrected.

After dissection. The muscles and tendons preserve their normal relations. The tibialis posticus and the tendo Achilles are very tense. The peronei are behind the external malleolus. When the tendons are all cut the deformity persists. Upon forced reduction the dorsal ligaments wrinkle and loosen, and the plantar and internal lateral and posterior ligaments are rendered very tense.

The bones. The tibia and fibula in their lower one-third are bent antero-posteriorly, with the convexity forward. The tibia is bent slightly more than the fibula. The internal malleolus is found to have been partially concealed by the proximity to it of the scaphoid bone. This close relationship is maintained by the tibialis posticus muscle and more particularly by the adaptively shortened ligaments, astragalo-scaphoid, etc. The long axis of the scaphoid bone (see Fig. 5) "de" is no longer transverse to the long axis of the leg but is perpendicular to the horizontal plane of the table.



FIG. 5.

The astragalo-scaphoid articulation is correspondingly altered. Its plane is almost parallel with the plane to the inner side of the leg. The os calcis is rotated outward to an extreme degree. The perpendicular plane of the bone is almost horizontal with the plane of the table instead of being at right angles to it. (See Fig. 6).

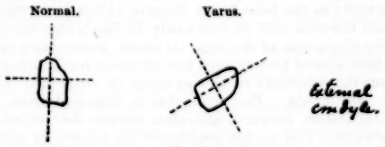


FIG. 6.

The attachment of the tendo-Achilles is approximated to the posterior ligament of the ankle-joint. The foot is in the position of a marked equinus. No part of the articular facet of the astragalus with the scaphoid, is uncovered of the scaphoid. The head of the astragalus looks forwards and inwards. The tibio-astragaloid facet of the astragalus is farther back than usual, the anterior portion of the facet being extruded a little from the joint. The cuboid bone has rotated with the os calcis and not upon it.

The reduction of the equinus is completed upon cutting the posterior ligament of the ankle-joint. It is questionable how much the tendon of the flexor longus pollicis muscle resists the reduction of the equinus. The calcaneo-cuboid and scaphoid ligaments offer considerable resistance to the reduction of the varus.

Left foot of the above specimen. The same anatomical conditions exist here as in the preceding specimen. The scaphoid bone is in contact with the inner malleolus.

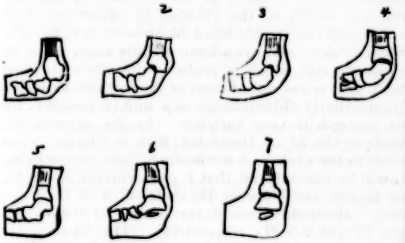
Case III. An adult equino-varus in the Warren Museum of the Harvard Medical School shows well the altered relations of the bones of the foot. (See Fig. 7). The astragalo-scaphoid articulation is divided into two distinct facets (dc and cb) separated from each other by a definite ridge (at c). A bursa (at x) probably existed between the inner extremity of the scaphoid and the body of the astragalus and the internal malleolus. The articular surface of the astragalus with the scaphoid looks inward.



Fig. 7.

In attempting to reduce this dissected specimen to a normal position, I found it impossible. The attempt stretched the ligaments enough to allow the tarsal bones to come into contact. Further movement between the bones was blocked, and all the ligaments on the inner side of the foot were rendered tense.

The following series of figures, one to seven inclusive, are taken from antero-posterior sections of a normal fœtal ankle-joint. They show the relation of the astragalus to the lower end of the tibia in a normal foot.



Comparing these figures with Figure 11, the differences in the relations of the astragalus and tibia in normal and varus feet is very clearly seen.

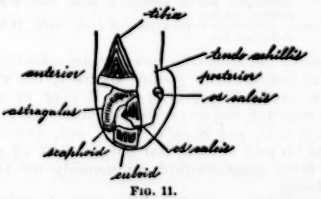


Fig. 11.

Figure 11 shows the relation, in a case of equino-varus, of the anterior portion of the body and neck of the astragalus to the lower articular surface of the tibia. The astragalus is depressed from the joint.

(To be continued.)

— Arsenious compounds added to putrefying matter are, according to certain recent researches of Hamburg, converted into arseniuretted hydrogen; which escapes as gas. This fact is of medico-legal importance as showing that the amount of arsenic contained in in dead bodies diminishes through putrefaction.

THE MEASUREMENT OF THE GALVANIC CURRENT, WITH SOME REMARKS UPON ELECTRODES.[1]

BY PHILIP COOMBS KNAPP, A.M., M.D.,

When we give a drug there are two things of which we wish, in the first place, to have definite knowledge — the amount of the drug we are giving, and whether it will be absorbed or not. Therefore we prefer the graduate to the wineglass, and we do not inject our drugs into the bladder — in fact, when we wish to be sure of a drug's absorption, we inject it under the skin instead of giving it by the mouth. In the use of one powerful and even dangerous remedy, however, we too often act as if we were prescribing morphine or strychnine in a solution to be taken by the wineglassful, without even specifying whether a sherry glass or a claret glass should be used; and as if we were putting our remedy into some cavity, which absorbed very rapidly or not at all.

In many of the books and papers on nervous diseases, even in a book so recent and scientific as Eichhorst, the unit of measurement of the galvanic current is assumed to be the current obtained from one cell. The largest American work on therapeutics, too, scarcely mentions the subject of the measurement of the current. In point of fact, however, the amount of the current which passes through the patient's body — that is, the dose that he really gets — depends upon a number of different factors, the number of cells, the kind of cells, and the condition of the cells, the absorbing power of the patient, the size of the electrodes, and various other conditions. Most of those factors are recognized when spoken of, but they are so often neglected, and their influence is taken into such small account in the practical application of electricity, that I may perhaps be excused for calling attention to them once again.

There are two laws that govern the use of electricity, but as they are generally put into an algebraic formula, they are too apt to frighten those of us who have labored hard to forget our mathematics. These are the laws governing the intensity and the density of the current. The intensity is nothing more than the amount of electricity passing through the circuit; it increases with the electro-motive force; that is, with the amount of electricity generated in the battery, and it decreases with the resistance which it meets, just as a current of water through a pipe decreases as you shut the faucet: hence its formula was given as $I = \frac{E}{R}$. The density on the other hand, is equivalent to the pressure of water in the pipe; it increases with the amount of fluid passing through the pipe, and it decreases as you make the nozzle of the pipe larger; hence its formula is $D = \frac{1}{Q}$ (when Q equals the surface of the nozzle or of the electrode). Thus even an elementary knowledge of mathematics will show us that in our first formula $I = \frac{E}{R}$, by increasing or diminishing R, the resistance, we can get as marked results as by increasing or diminishing E, the amount of electricity generated in our battery, which depends on the number and strength of our cells; and also that our density, D, will vary with the size of electrode used, Q, as well as with the amount of our current, I.

Such being the case, it is evident that the number of cells employed forms but a part of the numerator of

[1] Read before the Suffolk District Society, Section of Clinical Medicine, Pathology, and Hygiene, June 7, 1887.

our first fraction; that is, that the electro-motive force, E, is in part dependent upon the number of cells, and in part upon their strength, and therefore, when the denominator of our fraction can and does vary, the numerator, or rather one factor in it, is valueless as a unit. Fortunately, we have a unit which covers both terms in the fraction, a unit which can become apparent at a glance, and which tells us, not the dose given, but the amount absorbed. That unit, as you are doubtless aware, is the milliampère, — an arbitrary unit, like the metre, but almost as exact and unvarying a unit as the metre. As the name implies, the milliampère is the thousandth part of an ampère, and an ampère is the amount of current obtained from an electro-motive force of one volt, (about equivalent to the electro-motive force of a gravity cell), passing through the resistance of one ohm, which is equal to the resistance of a column of mercury one millimetre square, and 1.05 metres high. Thus, by putting an "absolute" galvanometer into the circuit, which includes of course the patient's body, we can tell at a glance the number of milliampères used — a process easier, indeed, than reading off the number of cells, although it requires a little waiting for the needle to come to a stand-still.

To return to our first formula, $I = \frac{E}{R}$. In order to show how R, the resistance in the circuit, may vary, I performed a few simple experiments. In the ordinary application of electricity, of course, the main resistance is that of the body, which is so great as to render that of the wires and the cells of little account. Part of these experiments were performed upon myself, and part upon Dr. J. A. Jeffries. The battery was an old one of twenty-eight cells, the ordinary bichromate battery made by Thomas Hall, which had been cleaned and freshly filled, and gave a good current. A Hirschmann galvanometer was put in the circuit. A "large" electrode was put on the back of the neck as a positive pole, a "medium" electrode negative, was held against the palm of the hand.

Date, Dec. 1 and 2, 1886.

I. Skin dry, electrodes dry, covered with dry chamois. 28 cells. No current with either of us.

II. Skin dry, electrodes dry, bare metal. 12 cells. Self, 1 Ma. Same 28 cells. Self, 6 Ma. (?). This caused such painful burning that I could not wait for the needle to come to a stand-still.

III. Skin not wet. Chamois wet. 12 cells. Self, 7 Ma. Dr. Jeffries, 3 Ma.

IV. Skin thoroughly wet, the hand being washed with soap and held for some time in warm water. Electrodes covered with a thick layer of absorbent cotton over the chamois, and thoroughly wet. Firm pressure of electrodes. 12 cells. Self, 12 Ma. Dr. Jeffries, 5 Ma.

V. Same with kathode to flexor surface of wrist. Self, 13 Ma. Dr Jeffries, 9.5 Ma.

These experiments go to show the different resistance of the wet and dry skin, the different resistance shown by different persons, and also, though to a lesser degree, the different resistance of different parts of the body. This latter point has been brought out more fully in some experiments recently made by Dr. Prince.[2] Furthermore, repeated applications of electricity will reduce the resistance.

Just here I wish to make a little digression. The ordinary electrodes sold in the shops are covered with sponge. This holds water fairly well, and keeps the skin wet, but after frequent use, especially on Dispensary patients, it is about as nasty a thing as you would be able to find, nor is chamois skin much better. It is said that syphilis has been conveyed by such electrodes, and certainly our modern notions of cleanliness should lead us to discard them. Dr. G. B. Massey[3] some time ago recommended covering the electrode with absorbent cotton, and, after using it for nearly a year, I can recommend its use. It is cheap, clean, and easily applied, and as the following experiments will show, it does not materially impair conduction.

Date, Dec. 3, 1886.

VI. Two cells. Handle ends together. 6.5 Ma.

VII. Two "large" electrodes. Wet chamois. 5 Ma.

VIII. Same. Wet cotton over chamois, light contact. 3.5 Ma.

IX. Same. Firm contact. 4 Ma.

This variation, with a small electro-motive force, and low resistance, disappears with a larger force and higher resistances. To illustrate this, I put a "large" electrode on the back of the neck, and held a "medium" one to the palm. Descending current, skin thoroughly wet, ten cells.

X. Thick layer of cotton over chamois. 7 Ma.

XI. Chamois alone. 7 Ma.

Having thus shown the variability of the resistance, I wish to call attention to the fact that the electro-motive force is not indicated by the number of cells used, but that it varies with the form of cell. Dr. Watteville[4] states that the electro-motive force of the Daniel or gravity-cell is 1.08 volts; of the Leclanché cell, 1.5 volts; of the sulphate of mercury cell, 1.5 volts; of the chloride of silver cell, 1.03 volts; and the freshly-filled bichromate cell, 2 volts. Stein's "dry" cell has a force of 1.08 volts. The bichromate cell, which is probably the one most often used, as it is the cell of most of the portable batteries, is particularly objectionable as a unit of measure, for its strength is very variable. In the experiments made on the 2d of December, with a "large" electrode to the neck, and a "medium" one to the palm, it will be remembered that I got a current of 12 Ma on myself, and 5 Ma on Dr. Jeffries; with the "medium" electrode to the flexor surface of the wrist I got 13 and 9.5 Ma respectively. The battery was used more or less at the Dispensary for a fortnight, while the stationary battery was undergoing repairs. December 16, the experiments were repeated.

XII. "Large" anode to neck, "Medium" kathode to palm. Skin thoroughly wet as before. 12 cells. Self, 7 Ma. Dr. Jeffries, 4.5 Ma.

XIII. Same. Kathode to flexor surface of wrist. Self, 11 Ma. Dr. Jeffries, 7 Ma.

Some of the other cells, however, are more constant, and can indicate with greater accuracy, the electro-motive force. The gravity-cell, if kept in use, is fairly constant, and so are the Leclanche and chloride of silver cells, and Stein's "dry" cell, recently described,[5] is said to have lost only a tenth of a Ma, after being short-circuited continuously for twenty-four hours.

I have said enough, I think, to show that there are several factors to be taken into account in estimating the intensity of the galvanic current, and that the electro-motive force is not the measure of that intensity. I wish, now, to call attention to the fact that, in the practical application of galvanism, the density of the current is also an important point. That, as I have said, increases with the intensity, and diminishes with the size of the electrode, in the formula $D = \frac{I}{Q}$, just as the pressure of the stream of water increases

[1] Boston Medical and Surgical Journal, Nov. 4, 1886.

[2] Medical News, Dec. 26, 1885.

[3] Medical Electricity, p. 56, et seq.

[4] P. Th. Stein. Ueber die Dosirung galvanischer Ströme in der Elektrotherapie. Berlin kl. Wochenschrift, 25. Jan. 1886.

with the "head" of water, and diminishes with the size of the outlet.

The instrument-makers put a couple of electrodes into their batteries, with discs an inch-and-a-half in diameter, and, when they are liberal, they add a wire-brush and some special form of bulb-electrode. In the general application of galvanism — I am not now speaking of the application to some internal organ, where an instrument of peculiar make is needed — it is as necessary to have electrodes of different sizes as it is to have knives of different sizes for amputations. The spinal cord and the deeper nerves cannot be reached by the current from a small electrode, at least, with a current strong enough to do any good; nor can a large electrode be used conveniently to test reactions, or to apply to the face.

In 1882, Erb, in his "Handbuch der Elektrotherapie," suggests a scale of sizes, which he had found convenient for general use. De Watteville soon after urged that they be accepted as the standard, and the Committee of the American Neurological Association have recently advocated their adoption. No instrument-maker, however, has offered them for sale, and no American work on electro-therapeutics that I know of speaks of them, so that I may be pardoned for describing them. I will add that I have found them to answer all requirements, after using them for nearly two years at the City Hospital and the Dispensary.

1 "Large" electrodes, 6 x 12 cm., for the cord, large joints, sciatic, and as an "indifferent" electrode.
2 "Medium," 5 x 5 cm. Face, neck, local application to nerves and muscles.
3 "Normal" 10 sq. cm. surface, 3.6 cm. diameter. To test nerve and muscle reactions, so as to have an unvarying denominator in the formula $D = \frac{I}{Q}$. This I have already described in detail.[7]
4 "Small." Ball, 2 cm. diameter. Smaller muscles and nerves. Eye.
5 "Smallest." Ball, 0.5 cm. diameter. Fine nerve branches and motor points.

Erb also uses a flexible electrode, 7 x 14 cm., for the head, and at times, in very short persons, a "very large" electrode, 8 x 16 cm. This last size will seldom be found necessary.

Every one knows that, even with a weak current, if we use a wire-brush, where the fine points of the wire conduct the electricity into the skin, we cause considerable pain. A current of the same intensity, passing into the body through a larger electrode, that is, a current of lesser density, will cause no pain at all. In the same way, a current applied through a "large" electrode will be easily borne, when, if we give the same current through our "smallest" electrode, we will get great pain. Hence, if we wish to use strong currents, we must use large electrodes, otherwise we will get pain, and even blisters, which are undesirable. Furthermore, it will be found that the intensity of the current varies with the size of the electrode — that a small electrode increases the resistance.

Dec. 2, 1886.

XIV. To show the painfulness of the small electrode I put the "large" anode on the back of the neck, and a "large" kathode to the palm. Skin well wet, cotton to electrodes, 28 cells. Self, 23 Ma. Dr. Jeffries, 21 Ma.

We both noticed a marked and unpleasant sensation in the neck and throat, a metallic taste, etc.

XV. Same "large" anode to neck, "smallest" kathode to ball of thumb. Self, 12 Ma. Dr. Jeffries, 10 Ma.

This caused no general sensations, but an acute, burning pain at the kathode, so that we feared a blister, and took off the electrode as soon as the needle came to a standstill.

Dec. 3, 1886.

XVI. "Large" electrodes as before to neck and palm. 16 cells. Self, 12 Ma. Distinct, but not unpleasant general sensations.

XVII. Same with "smallest" kathode to ball of thumb. Self, 3 Ma. Slight local sensation during passage of current, burning after taking off electrodes. No general sensation.

This led me to investigate more carefully the effect of the size of the electrodes.

Dec. 4, 1886.

XVIII. "Large" anode to back of neck, kathode to palm. 16 cells. "Large" kathode, 10.5 Ma.; "Medium" kathode, 7.5 Ma.; "Normal" kathode, 5 Ma.; "Small" kathode, 4.5; "smallest" kathode, 2 Ma.

These results agree in the main with those reported by Erb[8] and Prince[9]. Erb states, also, that the area of the epidermis modifies the results, as well as its thickness. Fischkau, however, in a recent monograph,[10] states that the resistance is due to the wetness of the skin, the pressure of the electrode, the duration of the passage of the current, the intensity of the E. M. F., temperature, point of application, and certain internal conditions of the organism. The size of the electrodes, and the space between them, make no difference in resistance. Such a statement, in view of the facts shown by Erb, seems untenable.

We see, then, that we must consider the density of the current we are using, as well as its intensity, if we wish to use strong currents and avoid pain, and the density depends, in part, upon the size of our electrodes. There is another point, however, in regard to this density, to which I have referred, which is of still greater importance. With electrodes of equal size, the density is alike at each electrode; with electrodes of unequal size, the density is greater at the smaller electrode, as Erb shows in his figures; and, in both cases, the density is greater near the electrodes. Therefore Erb says that, if we wish to reach some special point near the surface, we should place a small electrode over it, and a large electrode on some indifferent part, thus getting the maximum density at the point desired. To reach a large part near the surface, we put two good sized electrodes near together, while, if we wish to affect deep-seated parts, such as the cord, we must use large electrodes, and place them far apart. Erb's rule in applying galvanism to the cord is "large electrodes, and far apart." In this way, too, by diminishing the local pain and burning, we can use strong currents, which are sometimes desirable.

I have given only a rough and hasty account of some of the factors which must be considered in the practical use of galvanism, with a few simple experiments to show the need of considering these fundamental rules. Accurate dosing is as important in electro-therapeutics as it is in internal medication, although, in both cases, we must vary our dose to suit our patient. In electro-diagnosis, moreover, this accuracy becomes still more necessary, and, without some trustworthy measure, our judgments must be merely approximate, and often fallacious.

[7] Boston Medical and Surgical Journal, April 8, 1886.

[8] Handbuch der Elektrotherapie, pp. 54, 55. Ed. 1882.
[9] Art. cit.
[10] Ueber den elektrischen Zeitungswiderstand des menschlichen Körpers. Abst. Neurol. Centralb., 1 Aug., 1886.

— Apropos of our article on "Baldness," a correspondent writes us that a lady of Salem, Mass., asserts that one fruitful cause of baldness in men is their habit of drawing their shirts off over their heads!

CASCARA SAGRADA, AND ITS USE IN THE TREATMENT OF CONSTIPATION.[1]

BY JOHN W. FARLOW, M.D.

CASCARA SAGRADA is the bark of the rhamnus purshiana, a shrub fifteen to twenty feet high, belonging to the Buckthorn family, which is found only on the Pacific coast of the United States, from Cape Mendocino north to British America, though it is not common in Washington Territory. It was first botanically described, under the name, however, of rhamnus alnifolia, by Frederic Pursh, a German, in 1814. De Caudolle, in 1825, first recognized that rhamnus alnifolia of Pursh was not the same as rhamnus alnifolia of L'Heritier, and he described the form which Pursh called alnifolia as rhamnus purshiana, and all subsequent writers follow De Caudolle.

Other members of the buckthorn family of medicinal value are rhamnus frangula, black alder, which grows extensively in Europe and rhamnus cathartica, common buckthorn, whose habitat is farther north than the preceding. The bark of both of these is used as a cathartic, which has caused them to be confounded with rhamnus purshiana. For instance, Dr. Douglas Lithgow,[2] in an article on cascara sagrada says, it was well known to early writers and was mentioned by European botanists in the thirteenth century. As this was before Columbus discovered the Eastern Coast of America, it is fair to infer that what was said by those Europeans about the botany of the West Coast was of very little value.

Cascara seems to have been used for some time, and it is probable that its resemblance to the European varieties led the early traveller and missionaries to use it as they had used rhamnus cathartica, and the natives, seeing it used in that way, were ready to adopt it as a cathartic.

It was first introduced to the medical world by Dr. Bundy, an electric physician of Calusa, California, who chanced to select this plant among many others having a local reputation among the natives for experiment. He, however, was ignorant of its botanical name and called it by the Spanish name known to the natives. The words cascara sagrada, or sacred bark, seem to have reference, not to its medicinal virtues, but to the resemblance of the wood to the chittem or shittim wood mentioned in the Bible, from which it is supposed the ark of the tabernacle was built; in fact, cascara is also called chittem wood in California.

The bark contains a brown resin, a red resin, a light yellow resin, a crystallizable body, tannic, malic and oxalic acids, a fat oil, a volatile oil, wax and starch in abundance. The exact nature and value of these various constituents has not yet been determined, nor has their relation with the constituents of the other rhamnaceæ.

The preparations of the drug used in medicine are the solid extract, powdered solid extract, fluid extract, elixir and the cascara cordial of Parke, Davis & Co. Of the dose and modes of administration I shall speak later.

In choosing a remedy for constipation we should select one that will do no harm and whose after-effect is not to increase the trouble for which it was given. It should not cause griping or any uncomfortable feeling, even if this can be overcome by the addition of opium, belladonna or other narcotic. It is also desirable that the remedy should not have to be given in increased doses, but the contrary, and the form of administration should be such that the dose can be small and can be carefully regulated for the individual case. Dr. Jacob Bigelow used to say that "a great deal of the success of a physician depended on his understanding the constitution of his patient; in other words, how large a dose of cathartic medicine it took to move his bowels." It is not generally expected that the remedy should have very much influence on the appetite and digestion, other than as a result of emptying the bowel, but, if the medicine is of itself an aid to digestion, so much the better.

Let us look at cascara and see if it fulfils any or all of these indications. I have used it for two or three years and have notes of over two hundred cases which I have followed long enough to know the result. The cases in which I have ordered it and where the patients have not returned I have left out of consideration entirely The cases have generally been those of more or less chronic constipation, and often associated with uterine or pelvic trouble as well as with disease of the rectum and anus. I have also used it in pregnancy and after labor. I have, in most instances, prescribed the fluid extract.

I do not propose to consider the various methods of treating constipation, regular habits of defæcation, exercise, diet, etc. I take it for granted that all such measures are to be tried before any medicine is given.

Is cascara an efficient laxative? In every case in which I have used it and have the records it has not failed to cause one or more dejections for a certain time. Several of the cases have been of very long standing, and had tried all imaginable drugs and combinations of drugs in vain. Mrs. S., for instance, forty-five years of age, had recently been in one of the Boston hospitals for six weeks for constipation. She had taken everything but cascara to no purpose. At the end of ten days, after taking cascara in gradually decreasing doses, her bowels became regular and soon she was able to have a daily stool without any medicine. Mrs. H., fifty-six years old, had always been constipated and had exhausted the usual remedies. After using cascara, at first in rather large doses and then diminishing, at the end of three weeks her bowels moved once a day by simply taking fruit in the morning.

Does it cause griping or any uncomfortable feeling? Very seldom, indeed, if it is correctly used and the dose rightly apportioned to the particular person. I have seen two or three cases where the patients complained of some griping, but on investigation I found that more than enough had been taken, or that, instead of diminishing the dose when it had begun to act freely, the same dose had been continued. Cases are reported by others in which griping occurred, but, according to my experience, this must be uncommon, and possibly some of these were due to too large a dose at one time. Some persons seem to be very easily affected by it, and this idiosyncrasy should be borne in mind in determining the dose.

In the administration of drugs which cause griping it is usual to combine with them something to stop the griping; in other words, to allow the drug still to irritate the intestine, but to take away the reflex contraction of the intestine causing the pain, or else to

[1] Read before the Suffolk District Medical Society, Section of Clinical Medicine, Pathology and Hygiene, June 7, 1887.

[2] Brit. Med. Jour., ii, 1883, p. 68.

blunt or remove the perception of the pain. This I hold to be a mistake, as the irritation of the bowel is injurious in many cases and the pain should be the signal that such is the case. The irritation is just as bad for the bowel, even when the pain is not allowed to manifest itself.

Most laxatives have a secondary, constipating effect, necessitating an increase of the dose or a change to some other drug. This is not the case with cascara, as the usual method of giving it is to diminish the dose after a few days.

What is its effect on the digestive system? Its use does not impair the appetite or digestion, but, on the contrary, increases the appetite and promotes digestion. On the intestine it seems to have a tonic action and is particularly adapted to conditions of atony of the stomach and bowels. The stools caused by it are soft, or semi-solid and not watery, unless too large a dose has been taken.

I have also found it of good service in the treatment of hæmorrhoids, by relieving the congestion and causing a soft, painless stool. It seems to have a beneficial effect apart from and in addition to its laxative effect in these cases as well as in some cases of fissure. The following is a good illustration: Mrs. F., aged thirty-one, mother of five children, had always suffered from constipation and piles, particularly after labor, and had never found anything to relieve her. I attended her in a difficult labor with breech presentation. She had very marked hæmorrhoids, which caused her so much trouble after labor that she could not sit on a chair, and every movement was painful. She obtained entire relief by using cascara in twenty-drop doses of the fluid extract, four times a day for three days.

The importance and at the same time the difficulty of regulating the bowels in gynecological cases is well recognized, but my experience with cascara in such cases leads me to give it the highest rank. I have notes of its very satisfactory use in several cases of endometritis, large uterine fibroids, flexions and versions, large and tender ovaries, one case of retroflexed pregnant uterus requiring forcible reposition, and a number where there were tender places and bands in Douglas's pouch, readily felt per rectum.

According to my experience, the cases for which cascara is particularly adapted are the chronic cases and especially those with weak and atonic digestive organs. For such patients it is far superior to rhubarb, senna, aloes, licorice powder and the usual laxatives, either alone or in their various combinations. For acute cases its peculiar qualities are not so much required, although it generally acts promptly, surely, and without secondary constipating effect.

I have generally used the fluid extract, for several reasons. It is an active and reliable preparation, the dose is small and can be easily regulated by increasing or diminishing the number of drops taken at a time. The taste is bitter, to which some object, while others find it not unpleasant. To the latter it can be given in water or with equal parts of glycerine in water. Most of the substances supposed to disguise the taste only add a sweet to a bitter and the combination is to many worse than either alone. I should say that the fluid extract of licorice, is perhaps, as good an excipient as any. Cascara cordial has an agreeable taste, and is preferred by many. The dose is, of course, larger and is not so easily regulated as the fluid extract. The solid extract is given in pill form, and consequently can be taken without the bitter being tasted. If, however, the dose in each pill proves too large, a new lot with a smaller dose has to be procured, which is a disadvantage as compared with the fluid extract.

The dose of the cordial is about a teaspoonful morning and night, or oftener. The solid extract is given in doses of two grains or less, three times a day. The dose of the fluid extract is from five to twenty-five drops, and I generally order it to be taken as follows: If the case is of long standing and one in which many drugs have been tried, I direct ten or fifteen drops to be taken in water before each meal and at night. If that does not cause one soft dejection a day, in two or three days I increase the dose to twenty-five drops four times a day, and tell the patient to take sufficient to have one dejection a day. Then in a few days, at any rate, or immediately, if he has more than one stool, a day, he is to diminish the dose from thirty to twenty-five, twenty or fifteen drops, but always enough for one soft stool a day. It is better to diminish the quantity taken at a time than to lessen the number of times. It will be found that five or ten drops at night often prove sufficient. It is well to omit the medicine from time to time and it can frequently be dispensed with altogether. If necessary to resume it, let only the amount be taken that was previously found to be sufficient.

REPORT ON PROGRESS IN SURGERY.[1]

BY H. L. BURRELL, M.D., AND H. W. CUSHING, M.D.

FRACTURE OF PATELLA.

Von Bergmann reports[20] a case of transverse fracture of the right patella, treated in the following manner: A sailor, aged twenty-two, sustained a fracture of the right femur, and a transverse fracture of the right patella. Result: union of femur, with seven centimeters shortening (subsequently relieved by osteotomy); non-union of patella. On failure to approximate the fragments during an attempt to suture them together, Von Bergmann made a curved incision around the tuberositas tibiæ, and chiselled obliquely through the bone, from below, anteriorly upwards and backwards into the joint. He then, by pushing up the fragment, united the patella. Bony union subsequently united the tibiæ fragment. The patient, when shown about sixteen months after the operation, is reported as walking well, but the motion of the right knee is quite limited.

TAUBER'S AMPUTATION AT THE ANKLE-JOINT.

Professor Tauber, of St. Petersburg,[21] has demonstrated his operation, which is a modification of Pirogoff's. "He begins an incision at the attachment of the tendo Achillis, and carries the knife forward, below the external malleolus, to the Chopart's line, and then across to the dorsum of the foot. On having reached the middle line on the plantar surface, the knife is carried backward to the heel, and then upward to the starting point.

"In this first stage of the operation, Dr. Tauber cuts the skin and other soft tissues to the bone. In the

[1] Concluded from page 383.

[20] Versammlung deutscher Naturforscher und Aertze zu Berlin. Berl. Klin. Wochschr., October 4, 1886.

[21] Ann. of Surg., January, 1887.

second stage he opens the ankle joint in the usual manner, that is, he cuts the ligaments in the following order, lig. fib. tali. post., lig. fib. calcan. and lig. ant.; then interosseus ligament, and, at the last, the deltoid ligament. In the third stage, Dr. Tauber dissects out the astragalus, and cuts off the foot in Chopart's line. While an assistant firmly holds the os calcis by forceps. Professor Tauber saws off the external half of the bone, in the line corresponding to the one first made in the skin. Thus the flap of the heel contains a thick, almost square part of the os calcis, and the posterior tibial artery uninjured. In the fourth stage, Professor Tauber saws off the malleoli, ligatures the arteries, severs and adjusts the two surfaces of the bones to each other, which is easily done without any extension on the tendo Achillis. Lastly, the wound is united with sutures."

DUPUYTREN'S CONTRACTION OF THE PLANTAR FASCIA.

Madelung [22] has collected six cases of Dupuytren's contraction, where an analogous condition of the plantar fascia was also present. The sole of the foot presented the appearance of a nodular callus, caused by the contraction of the plantar fascia, which had become intimately connected with the skin. In regard to ætiology, Madelung rejects the theories of mechanical irritation, gouty diathesis, or neuritis, and considers that a central origin is more probable.

MALIGNANT ANTHRAX.

Dr. A. Bois [23] reports very carefully a case of this frightful disease, and believes that two facts are evident from his case: (1) that the thermo-cautery has an incontestible power in stopping anthrax, even when malignant, provided that it be used beyond the limits of the disease; (2) that an anthrax may, for some days, maintain a benign course, increasing insidiously, and causing a false security. It may then take on suddenly the serious character of a disease beyond our resources, in consequence of the septicæmia which it engenders.

In corroboration of the above, Guiseppe Moggi [24] reports two cases in which the galvano-cautery treatment was used, supplemented by two per cent. carbolic injections, with one recovery and one death. In a third case, the carbolic injections and quinia were used at first, but later, when the disease was apparently uncontrolled, the galvano-cautery was employed, with an immediate improvement of the symptoms. The patient eventually recovered. Guiseppe adds that a large number of cases have been treated in this manner, with good result.

ARSENICAL TREATMENT OF MALIGNANT TUMORS.

F. Koebel [25] has reported the results attained at Brun's Klinik, Tubingen, by this method of treatment. His conclusions are that a trial of the internal administration of arsenic in all inoperable cases of malignant lymphoma, and in certain ones of general sarcomatosis, is to be recommended; that, although many cases are not cured, still some brilliant results have been obtained. In epithelial carcinoma and inoperable cases of mammary disease, local injections of arsenic were wholly valueless. With lympho-sarcomata, the results were negative. Of fifty-nine cases of malignant lymphomata, seventeen entirely recovered. In five, the disease recurred in from two to eight months. In fourteen cases, a partial recovery was obtained. Of the twenty-eight cases remaining unrelieved, with some, the time allowed for observation was too short. In the seventeen successful cases, the time elapsing to complete cure varied from one to six months. The treatment consisted in the exhibition of liq. potass. arsenitis internally, in gradually increasing doses, to a maximum of gtt. 40 to 45 daily, in parenchymatous injections, gradually increasing from 0.4 to 0.5 ctgms. *per diem*. The treatment should be continued for, at least, two months before being abandoned as unsuccessful.

GRAFTS OF FROG'S SKIN.

Morales Perez [26] has transplanted three quadrangular grafts two centimetres wide by three centimetres long, to a burn of the hand. After five days these grafts were found adherent, except two small bits. Two additional grafts were made in other points which adhered. After some days the epidermis and the blackish green pigment of the graft dried up, and left a thin white cicatrix, which became a satisfactory elastic covering to the grafted area.

TREATMENT OF WOUNDS OF VEINS BY LATERAL CLAMP.

The usual method of dealing with wounds of large venous trunks are double ligation and section of the wounded vessel, lateral ligation or occlusion by clamps. Complete ligation causes greater or less serious venous obstruction. Lateral ligation, on this account, was reintroduced by Braun, in 1882, who demonstrated that this method when successful, preserved the lumen of the vessel. In the Agusta Hospital (Berlin), wounds of the jugular axillary and femoral veins have been successfully treated by this method. H. Schmid, of the above hospital, has recently investigated this subject.[27] By a series of experiments he concludes (1) That in a perfectly aseptic wound a clamp can be removed from a wounded vein at the end of twenty-four hours, but of course with great care and without any tearing. That it never should be left *in situ* longer than forty-eight hours. That the lumen of the vein remains patent. That a secure cicatricial closure of a vein wound is not obtainable before fourteen days after removal of the clamp. That there is no especial difference between applying the instrument in a longitudinal or transverse direction.

In what manner the union of the wound was accomplished was not ascertained. Koeberle or Pean forceps may be used to close the wounded vessel. Schmid reports also seven cases, two of subclavian venous wounds, one axillary, three jugularis communis, and one femoral. The clamps remained in place about twenty-one hours under an antiseptic dressing, and were then cautiously removed. No secondary hæmorrhage or disturbance of circulation followed.

THE TREATMENT OF VARICOSE VEINS.

The excision of varicose veins has been tried with a fair measure of success; Le Brun [28] reports twenty-

[22] Berl. Klin. Wochenschr., October 4, 1886.
[23] Progres Medicale, October, 1885.
[24] Lo Sperimentale, March, 1886.
[25] Ann. of Surg., September, 1886.
[26] Medica Rev. de Sevilla, May 30, 1886, and Lond. Med. Rec., Oct. 15, 1886, p. 442.
[27] Berl. Klin. Wochenschr. 1887, xxiv, 19. Ueber den seitlichen Verschluss von Venenwunden durch Abklemung und Liegenlassen der Klemmen
[28] Journal Med. de Bruxelles, March and April, 1885.

one operations without an accident. Fry[29] reports six cases with complete success.

Stevenson[30] reports eight cases treated by the injection of pure carbolic acid, after Watson Cheyne, and Weber[31] reports a varicosity of the saphenous vein successfully treated by the injection of pure carbolic acid.

This method of Cheyne's is undoubtedly quite safe and gives fairly good results. The procedure is as follows: An Esmarch tube should be secured around the thigh sufficiently tight to stop the venous circulation, then in about a minute it should be made tight enough to shut off all the circulation. Injections of one minim of pure carbolic acid should be made into the veins at about an inch-and-a-half apart, beginning at the upper end of the vein. These punctures should be closed antiseptically and the elastic tourniquet should be removed cautiously, after the lapse of fifteen minutes. Patient should be confined in bed for a week.

LIGATURE OF THE POPLITEAL ARTERY FOR ELEPHANTIASIS OF THE LEG.

Three cases, with favorable results, are reported by E. Dignino (Caraccas):[32] (1) A middle-aged man, with his left leg and foot enormously enlarged by elephantiasis. The popliteal artery of that side was ligatured with considerable difficulty, owing to the alteration of the tissues of the limb by the disease.

The wound healed in about fifteen days, and from that time until his discharge, two months later, a marked and continual amelioration of the elephantiasis was observed. (2) Patient male, aged forty-two, with elephantiasis of both legs. Ligation of the left popliteal artery resulted so satisfactorily, that the patient urged similar treatment of the other limb. (3) This was done successfully. The author, from the above cases, is inclined to advise ligation before amputation, which usually produces but temporary relief, the disease soon appearing in some other region.

HÆMORRHAGE INTO ABSCESS-CAVITIES FROM LARGE VESSELS.

Güterbock's investigations[33] have led him to the conclusion that hæmorrhage from the larger vessel-trunks in abscess-cavities, aside from the commonly known inflammatory destruction of the vessel-wall, also results from a circumscribed thinning, extending from without inwards, as has been demonstrated in a case of Miller's of the aorta, and of Güterbock's, where the profunda femoris was affected. With the exception of the ulcerated spot, the vessel-wall was normal. The cause is supposed to exist in the irritating action of decomposed pus in an abscess-cavity. The most exposed to this action are the vessels situated at the bottom of such a cavity, and especially at the point of bifurcation of a main trunk or a large branch.

INDICATIONS FOR THE TREATMENT OF GUN-SHOT INJURIES OF JOINTS BY RESECTIONS.

The present ideas in regard to the treatment of gun-shot wounds of joints by primary or secondary resection is discussed in an elaborate article by Schuchardt.[34] After presenting a detailed comparison of the recorded statistics, Schuchardt gives the following conclusions:

(1) Joint-resections for gun-shot injuries performed before the introduction of antiseptic surgery yielded very unsatisfactory results, both in rate of mortality and functional results.

(2) That, formerly, primary resection gave superior results, both in regard to recovery, and to the function of limb.

(3) That the bad results caused the adoption of an expectant or strictly conservative plan of treatment by the most experienced army surgeons.

(4) Since the introduction of the antiseptic treatment of open wounds, the indications for resection have become reduced, and the results from expectant treatment considerably improved.

(5) That even when operative interference is indicated, total resection is only required where both articular surfaces are extensively involved. In most cases, simple arthrotomy, with any osseous fragments, a thorough irrigation and drainage followed the removal of the bullet.

(6) Free exposure of the interior of the wound is indicated only in dirty wounds or extensive injuries of soft parts. With a small wound and favorable external conditions, the presence of a bullet or other foreign body, a free primary incision into the articular cavity is not indicated, for, by simple aseptic occlusion, most cases recover without serious impairment of function.

(7) Secondary resection is indicated where expectant treatment has failed, and an abnormal appearance of the wound, or interruption of the healing process, are indications for prompt operative interference.

(8) The duration of treatment in aseptic cases is slightly shorter after primary than after secondary resection, but not enough to justify its preference to the conservative or expectant plan on the battle-field.

(9) Although, theoretically, the dangers of a fatal result are less after a primary than a secondary operation, this comparison is not fair, since the secondary operation is performed only after the expectant treatment has failed, and, for each secondary resection, many others recover after antiseptic occlusion.

(10) Functional results depend on the amount of bone removed, and the kind of after-treatment.

(11) In the knee or ankle, ankylosis or an amputation-stump is preferable to a movable joint.

(12) Transportation is more unfavorable to a patient after resection than after the expectant plan. For this reason, and also since, on account of the large number of wounded requiring attention after a battle, an aseptic subperiosteal resection is attended with great difficulty. Such operations are to be avoided, if possible, on the field.

TEMPERATURE IN CASES OF SUBCUTANEOUS FRACTURES.

E. Mueller[35] has investigated three hundred and fifty-nine cases of subcutaneous fracture, with reference to variations of bodily temperature. Contrary to the former idea that simple fractures were rarely followed by elevation of temperature, Mueller found

[29] Brit. Med. Jour., Sept. 5, 1885.
[30] Lancet, October 23, 1886.
[31] N. Y. Med. Rec., Dec. 12, 1885.
[32] Ann. of Surg., July, 1887, p. 68.
[33] Deut. Zeitschr. f. Chir., Bd. xxiv, p. 413.
[34] Deutsche Zeitschr. f. Chir., Band xxiii, Hf. 5 and 6.
[35] Beiträge zur Klin. Chir. Mittheil. aus der Chir. Klink. zu Tübingen, ii, Bd. 1. Heft.

that this occurred in eighty-five per cent of the above cases. In his own cases the change ranged from 38° to 40° C. The maximum rise occurred on the first or second evening following the accident. In some cases the fever continued thirteen days. Transportation did not appear to increase the temperature. As a rule, the temperature increased in direct proportion to the extravasation of blood, but this was not an invariable rule.

CHANGES IN NERVES AND SPINAL CORD, SECONDARY TO AMPUTATIONS.

F. Krause,[35] reports the following results of an examination of nine cases of amputation at from ten days to six years after operation. He found an atrophy of the sensory fibres which extended to the spinal ganglion. A diminution in size of the posterior columns (in the lumbar and dorsal cords after amputation of the lower extremity, in the cervical cord after amputation of the upper). The nerve fibres remained intact. There was an atrophy of the gray matter of the posterior horn especially marked in the lumbar region, and the ganglion cells in the posterior lateral portion of the anterior horn were diminished in the proportion of one to three.

ÆTIOLOGY OF COLD ABSCESSES. SUPPURATION OF GLANDS, MUSCLES, BONES, AND TUBERCULOUS JOINTS.

Dr. C. Garrè, of Basle,[37] has written an interesting article on this subject, in which he details his experiments and researches for the purpose of ascertaining what influence as an ætiological factor is exerted by micro-organisms. He regards the ætiology of acute abscess as practically established, and summarizes the present theory as follows: That acute suppuration is caused by the penetration of pyogenic microbes into the tissues. That neither chemical nor physical irritation can cause suppuration, if micro-organisms are carefully excluded.

That inflammatory exudation becomes through the vital action of germs (Spaltpilze) changed to pus. In regard to so-called "cold abscess" less work has been done and less positive results attained. He concludes, however, that micro-organisms also play an important part in the ætiology of the latter. The chronic form depending on the presence of the bacillus tuberculosis, the acute outbreaks resembling acute abscesses upon the staphylo — or streptococcus. He harmonizes the facts that inoculations from cold abscesses result in general tuberculosis where the microscope and gelatine culture fail to demonstrate the presence of bacilli by assuming that the results are due to the presence of spores whose minute size and great resistance to staining fluids prevents their demonstration by these means. That these must be the infecting agents, since Koch has disproved the chemical theory, and that of non-organized ferments. Garrè states that phlegmonous pus can be distinguished from that due to tuberculous processes.

Phlegmonous.	Tubercular.
Thick and yellow.	Thin, serous-like.
Formed by active transudation of migrating white corpuscles.	Formed by serous transudation containing necrotic detritus of tissues disintegrated by cheesy degeneration.
Microscopically the pus cells are abundant and well formed, have sharp contour, distinct nuclei, and stain clearly.	Microscopically the cells are generally fatty, degenerated and in fragments. Stain indistinctly.

[35] Berl. Klin. Wochenschr., October 4, 1886, p. 685.
[37] Deutsche. Med. Wochenschr., xii, No. 34.

He also states that the failure to cultivate the spores is because living organisms only supply the necessary conditions to develop them into bacilli.

THE ACID CALCIUM PHOSPHATE TREATMENT OF TUBERCULOSIS.

In imitation of the process observed in the healing of lung cavities, Kolischer[38] has injected tubercular joints with solutions of acid calcium phosphate.[39] For hypodermic injections:

℞ Calci. phosphoric neutral . . . . . 5 parts.
Aquæ distill. . . . . 50 parts.
Add phosphoric acid until a perfect solution results; filter, add
Acid. phosphor. dil. . . . . 6-10 parts.
Aq. dist. . . . . q. s. ad. 100 parts.

For an escharotic effect upon tuberculous ulcers and indolent granulations, the following is used:

℞ Calci. phosphoric neutral . . . . . 50 parts.
Aq. dist. . . . . 500 parts.
Add phosphoric acid until a perfect solution is obtained; filter, add
Acid. phosphoric. dil. . . . . 60 parts.
Aq. destillat. . . . . q. s. ad. 1000 parts.

Gauze may be soaked in this fluid, and used in dressing tuberculous fistulæ and pockets.

Previous to injection the surface of the diseased part is disinfected. The injection is made with a platinum needle introduced deeply into the tissues; if great pain results, cocaine may be added to the solution. The contents of a Pravaz's syringe may be given at one injection after being sterilized. Kolischer considers the method of especial value in children; in many cases speedy cures result, while others recover after prolonged treatment. Rare cases occur where there is no effect.

Two cases of acute tuberculosis of the elbow-joint in children were exhibited, where a cure had given a normal contour to the joint and good motion resulted.

Five hundred cases have been treated by this method, and Fronshauer and Albert believe it is destined to improve markedly the results obtained in localized tuberculosis.

THE USE OF DRILLS AND NAILS AFTER RESECTION.

J. A. Wyeth[40] considered that steel drills for fixation of the knee-joint after resection, were better than nails, since there was less danger of crushing the bone. Gerster had found that the dry-goods box nail answered the purpose, and advised placing the finger between the bones and the popliteal vessels to guard against accident, also to prevent any lateral displacement of the bones during the operation.

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[38] Wiener medizinische Presse, No. 24.
[39] See Med. News, June 25, 1887, August 13, 1887.
[40] Proc. U. S. Surg. Ser., 1886, May 10.

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Clinical Memorandum.

A CASE OF AGORAPHOBIA.[1]

BY ALBERT N. BLODGETT, M.D., OF BOSTON.

The patient is a man, forty years of age, married, in whose family history there is no known peculiarity or hereditary predisposition. At the age of ten years, while crossing the Atlantic Ocean, from some cause unknown to the patient, he became suddenly and totally blind. From that time he has never recovered the power of vision, and the eyes have undergone a process of atrophy, so that the bulbs are little, if any, more than one-half the size of the natural organs. The patient was never a particularly strong person, but has not had more than the average amount of sickness, nor have the illnesses from which he has suffered been in any way extraordinary. Since the loss of sight, the patient has noticed a peculiar sensation, unknown before, which came only at rare intervals at first, but has gradually increased, both in frequency and in the degree of severity, until it now affects him continually, and is a cause of constant distress to him, as well as of anxiety to those around him. This affection consists of a sensation of giddiness, or perhaps, more properly, of vertigo, for it is usually accompanied by a feeling of nausea, which was, at first, usually noticed more particularly after unusual exertion, or in conditions of great exhaustion, but which have since been so constant as to leave him hardly any period of freedom.

The vertigo is accompanied by a peculiar state of mental distress, which the patient describes as a most torturing feeling of anxiety, which hangs over him all the time, and is steadily increasing. He is afraid to go about; he is terrified at the thought of crossing the street, or at the idea of walking through a public square or place. He is thrown into a state of fear by the attempt to cross a park, even when not alone, and is made so wretched by the same sensation in the horse-cars, that he seldom comes into town, though the distance from his home to the city is but trifling.

The giddiness is often accompanied by a sensation of fulness in the region of the stomach, and the patient frequently belches large quantities of gas during or after the severer attacks of vertigo. He thinks that his stomach is "sensitive," and does not take cold drinks, for fear of "chilling the stomach." Does not partake largely of either tea or coffee. His digestion is said to be good, natural rest is obtained, though the actual amount of sleep is seldom more than six or seven hours, and he wakes refreshed and invigorated. He can never tell, by any symptom, when the exacerbations are coming on, but is sure that the malady is gradually becoming more and more constant, and that it is also more severe than formerly. He now seldom goes out on any pretence, on account of the fear or sense of oppression which the sensation of infinite vastness around him causes him to experience. He has no ringing in the ears, and suffers no pain, other than a sense of dull aching in the frontal region, and the discomfort in the region of the stomach. He has no vomiting or other gastric disturbance, and no signs of any organic disease. Pulse 72, temperature normal.

The patient's skin is of a tawny hue, reminding one of the peculiar color of the surface in advanced marasmus, or in cases of extensive malignant disease, and resembles somewhat the dusky tint observed in Graves's disease. The other features of these maladies are, however, totally wanting in our patient, and the coloration of the skin may be only an accidental or congenital coincidence. The patient is thin, bony, and has the appearance of constant expectation, or, one might almost say, apprehension of impending danger. There is no indication of any mental or moral impairment in the patient. He is a man of fine sensibilities and of acute understanding, and is fully up to the standard of ordinary men.

This condition does not seem to be due to the perversion of any of the special senses, nor is it peculiar to persons who are deprived of any of the special senses. During a considerable acquaintance with the blind, and some experience in the treatment of disease in these unfortunate persons, I have not observed in them the indications of the condition I have here described.

The condition in this patient seems to be a psychosis — a functional disturbance of the intellectual faculties — and is similar, in some degree, to the sensation of unsteadiness which sometimes precedes the giddiness associated with threatened seasickness. From this similarity, it has seemed to me that the disease might be connected with some derangement of the sympathetic nervous system, or with some obscure condition of disturbed function of the semi-circular canals of the internal ear, although I have not been able to establish such a connection in this case. It is well known that slight interference with the sympathetic nervous system may bring on symptoms resembling those of aural vertigo, and that the passage of the galvanic current through the cervical sympathetic will occasion, in a healthy person, a train of symptoms resembling to some extent those noticed in this patient. There is no appearance of impairment of any of the cerebral functions or faculties, nor is there, apparently, any disturbance of motion or of sensation. The special senses, with the exception of that of sight, seem to be normal, unless the increased acuteness of

[1] Read before the Suffolk District Medical Society, Section for Clinical Medicine, Pathology, and Hygiene, June 7, 1887.

the remaining senses, observed after the abolition or serious impairment of one of them, be reckoned a pathological condition.

Dr. Ferdinand Bottey, in the Societie Medico-Pratique, made an interesting communication upon the subject of "Claustrophobia or Clitrophobia." This affection is also a psychosis, but of exactly the opposite character from that recorded in this paper, and manifests itself in uncontrollable anxiety and terror on the part of the patient, when in any closed room, or in any confined space. In Bottey's case, the patient, who is now forty-three years old, had suffered for twenty years from articular rheumatism, for ten years from chorea, and later, from typhus.

The patient has no neurotic ancestry. After a public assembly, ten years ago, there was a disturbance in the streets, in which the patient was nearly crushed by the crowd. He suddenly became much distressed, which was followed by a condition of absolute helplessness. He was greatly excited, trembled in his entire body, the surface of the skin was covered with perspiration, and the face was deathly pale. He was certain that he could never live to get out of the crowd, or would surely be injured. From this time, the patient has been subject to frequent repetitions of this condition, in which his sufferings are most intense. In travelling by rail, his tortures are increased by the entrance of each new passenger into the conveyance in which he is seated. The situation at length usually becomes so painful to him, that he would much prefer to die than to continue the journey. If he chances to be in an omnibus, he is somewhat more comfortable, as he can always get out of it, and thus gain space. He once was driven to that point of desperation on a small steamer, that he tried to jump overboard into Lake Geneva, and was restrained only with much trouble. He will not trust himself to sleep in a hotel. In the theatre, he always selects a seat in some corner near the exit. The patient is active in political affairs, and his peculiarity was the cause of much merriment on one occasion, because he insisted on having the platform for public speaking located near the outer door, at the rear of the auditorium, without being able to give any plausible reason therefor. Otherwise, the condition of the patient is normal in all respects. He is of very cheerful temperament, and no one outside of the circle of his intimate friends is aware of his peculiarity. In etiological directions, it is of interest to know that the mother of the patient suffered from stone, his father was rheumatic, one grandfather was gouty, and the patient is also rheumatic. Thus far, it would appear that the arthritic diathesis may stand in some causative relation to this psychosis.

The condition here imperfectly described seems to consist of a pure neurosis of obscure and variable character, similar to some of the other forms of psychical disturbance, and is sometimes seen in relation to various chronic diseases, particularly syphilis. In this form of the affection, the mind of the patient is filled with an unreasoning and indescribable fear of the disease, even although he may know that no symptom of the malady has ever existed in his person.

— The Emperor William has sent a sum of ten thousand marks to be distributed among the necessitous people in the cholera stricken districts of Messina.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY.
SUFFOLK DISTRICT.
SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

JUNE 7, 1887. By the courtesy of the Massachusetts Institute of Technology, the Section was convened in Huntington Hall.

The meeting was called to order, at eight o'clock, by the Secretary, who announced that DR. KNIGHT, the Chairman, had been suddenly called out of the State, and would not be able to attend the meeting. On motion of DR. C. P. PUTNAM, DR. S. W. LANGMAID was chosen Chairman, *pro tem.*

The reading of the records of the last meeting was omitted.

DR. C. P. PUTNAM, in behalf of the Committee on Physical Education of School-children, presented a report of progress, and offered a written recommendation for further action upon this subject by the State Society, which was unanimously carried.

The recommendation is as follows:

"*Voted*, That the Section of Clinical Medicine, Pathology, and Hygiene recommend to the Massachusetts Medical Society that it authorize the President to appoint a committee to investigate the methods of physical culture now employed, to consider their relative value, and to report what they regard as the best plan to be adopted; and also, that such report be laid before the Commissioners of Education."

DR. W. J. FARLOW read an interesting paper on

CASCARA SAGRADA, AND ITS USE IN CONSTIPATION.[1]

DR. J. J. MINOT stated that he had used this remedy to a considerable extent in the treatment of constipation, and always with the most satisfactory results. The remedy, in his hands, has always proved efficacious, and he would be at a loss to replace it as a means of treatment in cases of this most refractory condition. He has found the dose to be variable, in some cases, the amount required to produce the desired action being considerably greater than in other cases, without any appreciable difference in the patients. The dose which had often proved useful in his observation is ten drops, which is soon reduced to five drops, and, after a few days, is discontinued entirely.

DR. C. P. PUTNAM asked the reader if the other ingredients of the cordial of cascara aided or benefited the action of the cascara itself in its effect upon the system.

DR. FARLOW said that, in a composite mixture, such as the cordial of cascara is, the action of the substance is not so easily determined, and he much prefers to use the drug in its simple form, in order to eliminate all but the effects of the remedy with which he is experimenting. When the drug is employed in the treatment of children's diseases, there is no doubt that the cordial is a better form for administration.

DR. BLODGETT asked the reader if the drug, as furnished by the pharmacists, is of uniform quality, and reliable in its activity.

DR. FARLOW replied that he has had no trouble with any of the standard preparations of this drug, as manufactured by responsible firms. He mentioned

[1] See page 402 of the Journal.

Parke, Davis, & Co., Squibb, Metcalf, and a few others, whose preparations he had found to be reliable, and of uniform character.

Dr. Langmaid asked Dr. Farlow if he was aware of any physiological experiments tending to determine what part of the intestinal tract is specially acted upon by this drug, or in what portion of the bowel its elimination takes place.

Dr. Farlow replied that no experiments of this character have been made in relation to the present variety of this plant, rhamnus frangula.

Dr. C. P. Putnam stated that he had used cascara to some extent, but had obtained only a variable and uncertain result. It is, therefore, a great satisfaction to have the results of long and careful observation and use of the drug, as contained in the concise statements of Dr. Farlow, and particularly, to know that no untoward results attend the employment of a comparatively new remedy. In some recent contributions upon this substance, it was stated that the preparations had not proved efficacious. Is the degree of constipation which exists in any way a guide to the dose of cascara which should be prescribed in a given case?

Dr. Farlow said that he knew no guide to the exact amount which would be required in any case, but each patient must try the drug in a dose of moderate character, and increase or diminish the amount, as the case requires. Dr. Landowski, who introduced it into France, and who experimented largely with it in the clinic of Dujardin-Beaumetz, as did also Dr. Eymeri, draws the following conclusions as to its use:[2] The medicine purges easily, generally without colic, at a relatively small dose. Its use not only does not excite anorexia, but, on the contrary, it excites the appetite; which is especially worthy of remark: at the end of ten or fifteen days of its employment, one can often stop the medicine without the constipation beginning again. If, at the end of a certain time, the constipation sets in again, one has only to take the medicine again for three or four days. He thinks it particularly good in cases of intestinal atony, and, when it succeeds, he does not know of any better means of combating obstinate constipation.

Dr. Senator[3] considers it an unirritating, safe, painless purgative, which, according to the dose, causes normal or loose, seldom watery stools, and can be given a long time without harm.

Dr. J. Fletcher Horne,[4] who has used it in several hundred cases, thinks it a very valuable remedy, and that constipation is often cured by its use.

Dr. P. C. Knapp then read a paper upon

THE MEASUREMENT OF THE GALVANIC CURRENT, WITH SOME REMARKS UPON ELECTRODES.[5]

Dr. J. J. Putnam said that the present paper is a valuable contribution to the study of electro-therapeutics. The capacity to use figures and formulæ advances the usefulness of the remedy. What we really measure is, however, the current in the electrodes, but the absolute density of the electrical current in the tissues varies with the distance from the electrodes. Experiments with small electrodes over the track of nerves have shown that we cannot determine with accuracy the amount of electrical action simply from the size of the electrode.

[2] Union Med., Par. 35, 38, 1884, p. 1074.
[3] Centrbl. f. d. m. Wissensch., 23, 1885, p. 285.
[4] Brit. Med. Jour., I, 1883, p. 456, and II, 1884, p. 654.
[5] See page 399 of this number of the Journal.

Dr. A. C. Garrett thought that the subject is a very important one, and one which has not been well understood. He is strongly opposed to the present form of electrodes, and spoke warmly in favor of a large number of electrodes, so that the same electrodes may not be employed on successive patients. He thinks that the use of ordinary sponge-electrodes is fraught with danger, both from the filthy condition which is sometimes observed on the electrodes themselves, as well as from the danger of communication of diseases by their use. The idea that we can measure the current of electricity which the patient is receiving is recent. We formerly had no correct method of ascertaining the amount of the electrical influence to which the patient was subjected. The first attempt at ascertaining the degree of electricity was to measure the battery. This was the only means at that time known, and gave rise to the estimation of the power of the battery by the number of cells comprising the battery.

There is no doubt that the best results are obtained from wet electrodes upon the skin. The use of tin-electrodes is to be discouraged for many reasons. These are the variety usually supplied with batteries, as sent from the manufacturer.

The next paper was by Dr. Albert N. Blodgett, entitled,

A CASE OF AGORAPHOBIA.[6]

Dr. Knapp said that although he had never happened to see a case of true agoraphobia, he occasionally met with cases of *folie du doute*. The various forms of morbid dread, agoraphobia, claustrophobia, mysophobia, anthropophobia and the like, are all forms of one general psychosis which is termed *folie du doute*. In the various cases reported there is no particular diathesis as a foundation for the psychosis, nor, in the cases of agoraphobia reported by Westphal was there any trouble with the organs of special sense to account for the symptoms. Westphal's cases differed from the case reported in the entire absence of vertigo. Its presence in this case is certainly of interest. Agoraphobia,— and the allied form of *folie du doute* is a form of psychical degeneration of the milder type, not depending upon any discoverable brain lesion, but found especially in those of a neurotic tendency, and is one of the slight indications of that degeneration of the higher cerebral faculties which is seen in its more pronounced forms in paranoia.

The cases reported are very curious. One patient expressed his utter inability to cross an open space, by saying that if he were perishing by thirst, and a spring of water was across a clear space twenty feet wide, he would die before he could cross it. The sensation of dread has been likened in degree to what we should feel in falling from a great height. One of Westphal's patients recovered while in the mountains, where the hills shut off the horizon, but relapsed on going on a picnic down into a plain. Another could cross a square, if there were a lamp-post in the middle, or could cross a park where there were trees and shrubbery. Another could cross behind a wagon, or in company, or if he saw the red light of a restaurant in the distance. These peculiar variations go to show that the disorder is purely mental.

Dr. T. W. Fisher stated that he had seen a few

[6] See page 407 of the Journal.

cases of this disease, though it must be ranked as a rare condition. The disease is purely a mental disorder, and is now generally recognized as such. The panic into which the patient is thrown is something painful to observe, and once seen is not to be forgotten. Such a case was for a time under the observation of DR. Fisher, at the South End, in this city. The patient lived upon one of the streets near Franklin Square, and was obliged to cross this square on his way to take a car for his place of business in the lower part of the city. This small open square was a source of such terror to the patient that he would not cross it alone, but it was necessary for his wife to accompany him to the car, when he made the remainder of the trip without further disturbance, and on reaching the Square at night on his way home, his wife always was there to escort him to his home. The patient was otherwise in good health, and followed a responsible occupation, that of book-keeper in a large house.

There was no tendency to any further development in the disease, and no other symptoms were ever observed in the further history of the case. This disease does not tend to assume any more serious condition. Sometimes, by attention to hygiene, an improvement may be effected in the disease, but there is usually little hope of a diminution of the terror which the presence of the patient in an open space produces in these susceptible persons.

DR. F. W. PAGE exhibited a

GALL-STONE,

which weighed about twenty-three grains, and which had been successfully expelled by a patient after an impaction of eighteen months. He said that he was induced to do so, not so much on account of its size, as there were many on record of much greater weight; notably one recorded by Horly weighing four hundred grains, and another, found post-mortem, weighing four hundred and eighty grains: but he did so because of two interesting features connected with the case; to wit, the length of time, eighteen months, the calculus had remained in the common duct, giving rise to symptoms of obstruction; and from the peculiarity of the symptoms, associated with periodical discharges of bile, the modifications of diagnosis, and because of the peculiar mental condition the obstruction developed, aside from the temporary delirium it occasioned, and which was unquestionably due to bile poisoning.

The patient, a female, fifty-one years of age, previous to the attack, which was the beginning of her illness, had been in good health, was active in work at home and that connected with various charities, both private and public, and weighed 267 pounds. In October, 1885, she experienced without, so far as she knew, obvious cause, a severe attack of pain referred to the liver, and which extended to the umbilicus. This pain was immediately followed by jaundice, and pipe-clay colored stools, which persisted with varying modifications of intensity of the hue of the skin, pain, disturbances of digestion and constipation, with whitish dejections until the following July, when she came under my care and observation. At that time she had already lost eighty-four pounds in weight, and was losing at the rate of a pound a day. Her conjunctivæ and skin were icterode, *the latter* not deeply so, owing to the fact that her kidneys were active and the flow of urine free, about forty ounces daily. There was no vomiting nor nausea, although she had daily attacks of pain. There was considerable tenderness over the liver, circumscribed in limit, and corresponding to the region of the gall-bladder and common duct. The liver measured in mammary line four and one-half inches. It was represented that no bile had been seen in the dejections since the first attack of hepatic colic in October. But this may be questioned on account of the slight enlargement of the liver at this time, nine months later. The patient was placed upon a purely milk diet and the so-called alkaline treatment; to wit, bicarbonate soda, sulphate soda, etc., in varying doses, and modifications, in order not to disgust the patient, and was steadily adhered to to the end. All dejections were carefully sifted. In the early part of September, 1886, a few black particles were found in the dejections, resembling grains of gun-powder, and which proved to be inspissated bile. A few days later, many more were found in a bilious discharge, some very dark, others lighter in color. The larger ones, on the addition of sulphuric acid, gave under the microscope, cholesterin crystals, which confirmed the diagnosis of obstruction from gall-stone. Despite this, nothing more was obtained until the final expulsion, here exhibited, although a small amount of bile would be occasionally seen in some of the dejections. The patient remained in a variable condition, steadily losing in weight, suffering much from flatulence, occasionally overstepping the limit in regard to diet and experiencing thereby attacks of hepatic colic, which were always followed by a deepening of the icterode condition of the skin, until November 16th, when after eating surreptitiously a plate of beans, she had an unusually severe attack of pain, but without either vomiting or nausea. This was followed by a rise of temperature, 104.5° F., accelerated pulse 120, delirium and within a few days by sordes upon teeth and tongue; before the subsidence of these symptoms, the peculiar mental state, before alluded to, supervened. This was characterized by delusions of suspicion respecting her family, and was associated with hallucinations of sight and hearing. This aberration persisted until February, when improvement began, first, respecting the hallucinations, and later in regard to the delusions. Until the latter part of April she remained in much the same condition as before the development of the mental disturbance, save that there had been a slow but steady loss in weight. At this time, about April 26th, she experienced a severe attack of pain, which was modified but not wholly relieved by morphia, and which lasted throughout the night. Two days later the concretion was successfully voided per anum, and is a beautiful specimen of a biliary calculus. An examination of it under the microscope, on the addition of sulphuric acid gives the characteristic cholesterin crystal of gall-stones. The total loss of weight of patient for the entire period of eighteen months was about 127 pounds.

DR. C. H. COOK, of Natick, exhibited a

GALL-STONE,

which was passed by a lady forty-five years old, who had symptoms of its presence only from March to October in the year 1879. During this time she had lost fifty pounds in weight, and suffered much from vomiting, anorexia, constipation, etc., and presented an enlargement in the right side in the region of the liver,

which was the seat of discomfort but not of severe pain. The diagnosis was between cancer of the liver and impacted gall-stones.

In August there was an accession of severe pain, accompanied a few hours afterward by severe diarrhœa, which was followed by entire relief from all the symptoms before noticed in the abdomen. Two weeks from the onset of the acute symptoms, the patient passed the gall-stone shown, and all the severe features of the case vanished, and have never recurred. The patient is now living, and has regained her original weight, and is in good health. The weight of the stone is 132 grains.

The late Dr. Ellis was consulted in relation to this interesting case, and expressed the opinion that a stone of the size of the present one could never have been passed through the normal duct of the gall-bladder, but that when the acute symptoms, above mentioned, came on, there was developed an acute localized adhesive peritonitis, by which the adjoining structures were united to the gall-bladder. The gall-bladder then probably ulcerated, and by good fortune when the opening in its wall occurred, the perforation was not into the cavity of the general peritoneum, but into the lumen of the intestinal canal to which the gall-bladder had become adherent. The stone, therefore, passed from the gall-bladder directly into the bowel at a point much lower down than the opening of the gall-duct into the duodenum, and was then soon evacuated with the stool.

The stone has roughly the shape of a bee-hive, and is about three-fourths of an inch in diameter, by about one inch high. The base of the stone is somewhat hollowed out by contact with another concretion, but the apex is conical and symmetrically rounded. There would seem, then, to have been at least one other stone in the gall-bladder of this patient, which probably was also passed into the bowel through the adventitious opening, but which was lost. It is also probable that only two stones were present in this case.

The Secretary stated that since the last meeting both the Chairman and the Secretary had been in receipt of communications from the public in relation to the question of milk-supply, and that the action of the Section at its last meeting had seemed to awaken considerable interest in those concerned in the milk-business. The Secretary suggested that a Committee be appointed to take the matter into consideration, and report what further action the Section might properly take in the matter.

The suggestion was put to vote and passed. The Chairman appointed as that Committee the following gentlemen, members of this Section: Drs. Henry J. Barnes, E. W. Cushing, C. P. Putnam.

Voted to adjourn.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.

W. H. TAYLOR, RECORDING SECRETARY.

THE meeting was called to order at the rooms of the Boston Medical Library Association, October 5, 1887, at 12.30 P. M., by PRESIDENT WINSOR. Sixteen members were present.

Records of the last meeting were read and approved.

On recommendation of the Executive Committee, Medical Examiner G. G. Bulfinch, M.D., of Southbridge, was elected a regular member of the Society.

Medical Examiner DRAPER, of the committee to submit a blank form for autopsy returns, asked for more time, as suggestions from medical examiners had been few in number.

Voted to grant the committee more time.

Medical Examiner WINSOR, of the Committee on Expert Medical Testimony reported verbally that the Judiciary Committee of the Legislature had granted leave to withdraw the submitted bill. He believed that the failure of the bill was due to the apathy of the bench and bar, and not to lack of support from medical men.

The President acknowledged receipt of Volumes 4 and 5 of the Transactions of the New York Academy of Medicine, from the Librarian of that body.

Voted to supply the Librarian of the New York Academy of Medicine with copies of the Transactions of our Society, as far as possible.

Medical Examiner PRESBREY read a paper entitled

A CASE FOR THE MEDICAL EXAMINER.

An unmarried domestic, aged twenty-one, apparently robust, with no suspicious surroundings, was found dying in a tub which contained a small quantity of water, prepared for bathing. Her head was hanging over the edge of the tub, and had not been immersed. She was put to bed, and expired in a few minutes. Autopsy and chemical examination revealed nothing but an undisturbed fœtus of two-and-one-half months. No attempt at abortion had been made, and there were no marks of violence, externally or internally. Medical Examiner Presbrey reported the death as having occurred from some unknown natural cause.

Medical Examiner HARTWELL reported a sudden death from uræmia, in a woman four months pregnant.

Medical Examiner DRAPER inquired as to the condition of the pancreas.

Medical Examiner PRESBREY had not noted anything peculiar about this organ.

Medical Examiner TAYLOR suggested syncope in the bath, from heart failure.

Medical Examiner PRESBREY had not considered the heart-muscle fatty.

The case was further discussed by members Bemis and Gleason.

DR. S. W. ABBOTT presented some statistical information of interest, abstracted from medical examiners' returns and other sources.

Adjourned.

NEW YORK NEUROLOGICAL SOCIETY.

MEETING held Tuesday evening, October 4, 1887, DR. C. L. DANA in the chair.

ARTHROPATHY OF TABES.

DR. WM. H. PORTER presented a specimen of the cord and knee-joint from a case of tabes. The patient was a female, thirty-two years old. The family history was good. There was no alcoholism, and no history of rheumatism in the case. In May of the present year, ovariotomy had been done, and, with the exception of a ventral hernia, the patient had made a good recovery. The cord affection dated from five months previously, and in February last, a gradual increase in the size of the knee had been noted. As early as December 15th, however, the patient had suf-

fered pain, and partial luxation had made standing difficult. Examination showed the right knee painful, but not swollen. The left presented subluxation, some fluid, and enlargement of the lower portion of the femur. There was some dyspnœa and some headache. The patient also suffered with external hæmorrhoids, but the urine was negative, and the coördination good. The right knee measured eighteen inches, and the left twenty-one-and-one-half. The patient was a large woman, weighing three hundred pounds. The enlargement, and the riding of the patella upon the joint, were all of the positive symptoms in the case, and it was transferred to the surgical ward. There continued to be a great deal of boring pain in the knee, but no puffy feeling in the feet, no anæsthesia, and no ocular trouble. The joint was excised, with an apparently good result, but three weeks later, on August 10th, discoloration of the skin of the buttocks and of the small of the back appeared, and, in the course of a day or two, the part sloughed. The woman died, apparently of sepsis from the slough. *Post-mortem*, the viscera were found healthy, with the exception of the liver, which was pock-marked with cicatricial depressions. The right knee-joint was found in a good condition. Moderate changes of interstitial thickening were found in the cord. The question was whether this should be considered a case of ataxia, the only positive symptom being the boring pain. The supposition of tuberculosis was entertained, but the excised joint had failed to show tubercular tissue or bacilli, and erosion of the bones had been the only discoverable change.

Dr. Dana added that the cord in this case was now being examined by Dr. Graeme Hammond, and there was no doubt that the posterior columns, particularly the postero-external columns, or columns of Burdach, were affected. It was a case of sclerosis of the cord, most marked in the posterior columns.

Dr. W. A. Hammond suggested that articular affections with locomotor ataxia were infrequent in this country, compared with France. He had never seen a case, although many cases of locomotor ataxia had passed under his notice. According to Charcot, they were very common, resembling in this the grand hysteria, which also seemed limited to France, and even to the wards of the Saltpetriere Hospital.

Dr. Porter stated that, during the past year, he had made post-mortem examinations in four cases of locomotor ataxia. In two of these there were joint-affections, and in two none.

Dr. Hammond asked whether the joint-affections were recognized during life.

Dr. Porter replied that they were recognized only in one of the cases. He had never seen the condition before this year.

Dr. Weber referred to a case which had been presented the day before at the German Society. He had seen others, but not such as would answer to Charcot's descriptions. Rosenthal, of Vienna, also had described severe joint-affections in locomotor ataxia, but not in such great numbers. The speaker could point to a few cases out of seventy or seventy-five, but, as a rule, the affection was not destructive. It was acute. It would come and go, and complete restitution might occur. He referred to two cases. In one there was diabetes and locomotor ataxia, and in the other there was sclerosis of the cervical region of the cord. In this case, it looked as though the cartilage and bone were invaded, as there was crackling and change in form. A case like that referred to, as presented the day before, with intra-capsular fracture and such extreme mobility, he had never seen before in this country.

Dr. Dana, from an experience embracing two cases, found that the term tabitic arthropathy did not, under all conditions, mean the same. One of these, a case of ten years' standing, slipped and fell, nearly dislocating a joint already loose, so as to present a typical arthropathy of this disease.

MELANCHOLIA DUE TO THE PROLONGED USE OF MORPHIA.

Dr. S. B. Lyon presented the history of a case of melancholia following the prolonged use of morphia for the relief of cardiac pain. The patient was a female of fifty years, who, for three years, had suffered from a condition diagnosed angina pectoris, which morphia only relieved. From two to seven grains had been taken during the day. She had subsequently suffered with terrors and delusions similar to those of the morphia habit, but more persistent. Relief was obtained after withdrawal of the drug and removal to an asylum, away from the unwise attentions of her friends. The cure was sudden, complete banishment of her terrors and delusions occurring in a single day. A curious double consciousness characterized this case. While dominated by her delusions, she preserved her ordinary consciousness, thus appearing to inhabit in thought both a real and an unreal realm.

While insane, this patient was free from her cardiac pain. This subsequently appeared, but yielded to electrical applications.

Dr. Putnam Jacobi considered the case very interesting. The conception of the Ego as a simple unit is childish. Undoubtedly, there may occur changes in the groupings which go to form the consciousness of which the Ego is made up. In this case, there was destruction of the ordinary linkings of consciousness, and the replacement of the ordinary normal impressions by the formation of a new sphere. The aberrations produced by morphia and other toxic influences could be similarly explained. The suddenness of the recovery in this case further demonstrated that the forced paths of association had ceased to be travelled, and the old ones resumed — a process which might be likened to the switching of an engine from one track to another.

Dr. W. A. Hammond objected to the term double consciousness in connection with the case. Double consciousness might be represented by plus and minus. The patient was not at the same moment in both conditions, but at different periods led separate lives, during the plus condition knowing nothing of what occurred during the minus condition, and vice versa.

Dr. Spitzka thought that the reader of the paper had used the term with the meaning of the French. The case was assuredly not one of double consciousness as the term is used by alienists. In double consciousness there is really a double *Ego* with alternate consciousness.

Dr. Lyon recognized that the case was not one of double consciousness as Dr. Hammond and Dr. Spitzka had used the term. The patient had, however, a double consciousness in an ordinary acceptation of the word, with a real and an unreal aspect, the latter dominating.

DISCUSSION UPON THE USE OF ANTIPYRINE AND ANTIFEBRIN IN NERVOUS DISEASE.

DR. J. S. ROBERTSON opened the discussion. He had used antipyrine first in general practice, in acute rheumatism, where it had appeared not only to reduce the fever, but to control the pain. This led him to try it in a case of migraine which had resisted aconitia and chloral. He had subsequently given it in one hundred unselected cases. In ninety per cent. of these, relief was obtained in fifteen to forty-five minutes. He gave it without a stimulant, and diaphoresis was the only ill effect which he had seen.

In the severe pains of tabes he had given ten to twenty grains hypodermically, or twenty to thirty by the mouth with a resulting diminution in frequency. In insomnia the sleep was better than that obtained by chloral. The speaker had never seen heart failure. In hyperpyrexia he gave forty grains in a dose, and had himself taken one hundred and twenty grains during twenty-four hours without any unpleasant result.

DR. E. WAITZFELDER had had an experience somewhat similar to Dr. Robertson's, but gave the drug with a stimulant, having found nausea and vomiting common where this was not used. He had given antipyrine in twenty indiscriminate cases of headache, obtaining relief in about fifty per cent. He had directed its use in the epileptic ward about three months ago. It had been thoroughly tried but without any appreciable effect. He had used it for the pains of locomotor ataxia, but while the patient had improved he did not attribute this to the drug.

DR. W. A. HAMMOND used antipyrine, and his experience had been entirely negative. He had given both antipyrine and antifebrin, both singly and combined, in neuralgia, the pain of locomotor ataxia, insomnia, vertigo, and in headaches both of the anæmic and hyperæmic variety. His method of administration has been in fifteen-grain doses three times a day continued for from two to three weeks. A new drug was not needed to shorten an attack of migraine. A hypodermic injection of morphia would do it, or one hundred grains of bromide of sodium, or 1-100 grain of glonoin, according to the variety. In a case of tuberculous meningitis in a child of two years he had given four-grain doses of antipyrine for the relief of pain and had signally failed. He had given it in epilepsy without result.

DR. DANA asked whether Dr. Hammond had given antifebrin in epilepsy. Dr. Hammond had given both antipyrine and antifebrin in fifteen-grain doses with similar results, sometimes combining seven and one-half of each. He referred to the insolubility of antipyrine, making administration difficult.

DR. GEO. W. JACOBY thought it serviceable to hear the other side of this question. His own experience had resembled that of Dr. Hammond. Antipyrine gave some relief in migraine, at least following the first or second administration. It sometimes cut short insomnia, but that about limited its usefulness in this field. It was not without danger. He had seen collapse from a dose of twenty grains.

DR. PUTNAM JACOBI has given antifebrin in the Infirmary to a child with pleuro-pneumonia, and with lowering of the temperature relief from pain also was obtained, although the physical signs remained unaltered and defervescence occurred in a typical manner upon the sixth day.

DR. SACHS believed that antipyrine could be recommended only in migraine. Possibly, also, in headache of a neurasthenic type. Cases should be followed for a number of months. The results from two to three administrations should not be relied upon. He had given it in a dozen cases of migraine with relief within twenty minutes of its first exhibition, and in no case had it been necessary to repeat the dose more than two or three times at intervals of an hour. The only unsatisfactory cases had been those of the spastic type. The paralytic type had been in every case relieved. In one case, that of a man of thirty-two years, the condition had resisted all previous treatment. The patient every four weeks had to go to bed from twelve to thirty-six hours, and was incapacitated for work for several days. Antipyrine does not entirely relieve the headache in this case, but the patient is able to continue his business during the paroxysm. In the speaker's experience about twenty per cent. of the headaches of neurasthenic origin would be relieved. In headaches of anæmic and gastric origin the treatment has been unsatisfactory. In insomnia, with and without migraine, antipyrine had appeared to act as a true narcotic. Sleep of nine and one-half to ten hours followed the administration of two grains. He had used it in the lightning pains of locomotor ataxia and in peripheral neuralgias, particularly trigeminal and sciatic, without result. Antipyrine was not a panacea, and the speaker thought that it should be used carefully. He had met no bad results himself, but from the reports of others it was evident that such results could occur.

DR. DANA expressed surprise that Dr. Hammond had been so unsuccessful in the use of antipyrine, and suggested that he keep a closer watch upon his clinical assistants. Dr. C. H. Brown claimed to have been cured of a most violent migraine by antipyrine, and was enthusiastically prescribing it in Dr. Hammond's clinic. In the treatment of epilepsy, antipyrine could only be used empirically. Antifebrin, on the contrary, has been shown to act as a spinal depressant, and hence could be rationally prescribed.

DR. ROBERTSON closed the discussion with the remark that he had found antipyrine soluble in Vichy. He considered a dose of twenty to thirty grains safe. He had not claimed that it cured, but that it acted as a palliative in the conditions named.

DR. SACHS exhibited a papier-maché model of the brain, in the absence of Dr. Starr.

—The *American Lancet* considers that one effect produced on the local practitioners by the presence of a medical school in a town is a demoralizing reduction in the fees received for medical attendance. It cites for comparison the two cities, Jersey City and Cleveland. New Jersey has no medical school, and Ohio has sixteen, of which Cleveland possesses several. The comparison of fees is much to the disadvantage of Cleveland, a sample of a large number being that ordinary midwifery cases in Cleveland are from five to ten dollars; in Jersey City, ten to thirty dollars. We suspect that there are other causes of difference, one appearing to be that the published "fee-bills of the New Jersey State Medical Society" are compared with the "fees charged by the Cleveland profession as a rule."

THE BOSTON

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THE ARMY HOSPITAL CORPS.

IT may possibly remain in the minds of some of our readers that we have, on a former occasion, spoken of the desirability of a separate organization of a Hospital and Ambulance Corps for the Army. The necessity for a distinct organization, composed of men specially enlisted for such a corps, and under the immediate control of the medical staff, was abundantly demonstrated during our late war.

The last Congress passed an act providing for a Hospital Corps, and General Order No. 56 has just been issued from the headquarters of the Army containing a long series of rules and regulations for its government.

The Hospital Corps is to consist of hospital stewards, acting hospital stewards, and privates. All hospital services in garrison and in the field are to be performed by its members, who are to be regularly enlisted and permanently attached to the Medical Department. In time of war, the Corps is to perform the necessary ambulance service under such officers of the Medical Department and assistants as may be detailed to direct it.

Candidates for the position of acting hospital steward must pass a satisfactory examination as to physical condition and general fitness, and, in addition, in pharmacy, care and use of meteorological instruments and hospital and field appliances, the methods of rendering first aid to the sick and wounded, and the ordinary modes of cooking. No person shall be appointed a hospital steward until he has demonstrated his fitness for the position by service of not less than a year as acting hospital steward, and, in addition, he must pass an examination in the elementary principles of hygiene, including ventilation, heating, and disinfecting, the principles of materia medica, therapeutics, and minor surgery, and the administration of anæsthetics. Their duties are, in brief, to care for hospital property, distribute stores and supplies, and supervise the Hospital Corps in hospital and in the field. The privates of the Hospital Corps are to be enlisted like other enlisted men of the Army, but are to be taken by preference from men who have served, at least, one year in the line, preferably as company-bearers, and they must pass an examination as to general intelligence and aptitude for the duties which they will be expected to perform. Privates enlisted for the Hospital Corps who have not received, at least, one year's military instruction in the Army, shall serve as privates for that period in a company stationed at one of three designated forts. After one year's service in the Hospital Corps, privates who have displayed particular merit will be recommended for promotion, and from those thus recommended, acting hospital stewards will be appointed. Members of the Hospital Corps will be instructed by the medical officers in the duties required of them, and will not be required to perform other military duties than those pertaining to their corps.

From each company of the line, four privates are to be selected by the company commander, with the concurrence of the post-surgeon, as "company-bearers." These men are to be instructed, under the supervision of the surgeon, in the duties of litter-bearers, and in first aid to the sick and wounded, but shall not be relieved from their regular military duties, the object being to insure the constant presence with the company of a number of men who can, in emergencies, render temporary aid. During an engagement, the company-bearers shall render first aid to the wounded, or carry them to the rear, until relieved by members of the Hospital Corps.

At every post, the Hospital Corps will be represented. The very least representation at the smallest post, being one hospital steward, three privates, and one regulation ambulance.

Article 25 of the rules and regulations will be recognized by surgeons of the late war as of special importance. It is as follows:

"The ambulance and harness shall be under the immediate control of the senior medical officer of the command, and shall not be used for any purpose other than the transportation of the sick and wounded, the recreation of the convalescent patients in hospital, or to enable the medical officer to give instruction in the duties of the ambulance service"; and paragraph 41, relating to ambulance service in time of war, reads: "Ambulances shall be used only for the transportation of the sick and wounded, and, in urgent cases only, for medical supplies; and all persons shall be prohibited from using them, or requiring them to be used, for any other purpose. It shall be the duty of the officers of the Ambulance Corps to report to the commander of the Army Corps any violation of the provisions of this paragraph; and any officer who shall use an ambulance, or require it to be used, for any other purpose than as provided in this paragraph, shall, for the first offence, be publicly reprimanded by the commander of the Army Corps in which he may be serving, and, for the second offence, shall be dismissed from the service.

The regulations go on to prescribe still further their duties and their distinctive uniform, but enough has already been said to show that the Corps is to be established on a distinct and permanent basis, and we have no doubt, that the corps will fully justify its creation even if active service in the field should never be required of it.

ANOTHER NEW TREATMENT OF TUBERCULOSIS, BY SULPHUROUS ACID FUMES.

It is probable that, as long as the bacillary theory of phthisis has possession of the medical mind, there will be no cessation of attempts to attack the specific microbe, either by the breath or through the blood. Great expectations were entertained of gaseous rectal injections, and it was fondly hoped that few of Koch's baneful parasite brood would be able to withstand that mephitic hydrogen sulphide, attacking them, not *a fronte* (which would be hardly safe for the patient), but *a tergo*, during which process the bacilli would stand a chance of being drenched with the foul gas while taking its departure from the pulmonary cells. It can hardly be said that these expectations have been realized; the bacilli do not die, but swarm in the sputa, as numerously as ever. Such is the testimony that comes to us from experts, both at home and abroad. In fact, Bergeon's method seems already to be on the wane, despite some temporary advantages which are still claimed for it in some quarters.

More noxious to vegetative life even than sulphurretted hydrogen, is sulphurous acid, whose anti-parasitic and disinfectant properties have long been known. It has, of late, been proposed to utilize this substance in the combat with Koch's bacillus, and, in the few instances of undoubted phthisis where it has been tried, it would seem really to have done pretty thorough work with the microbe-enemy, *if we may trust the reports.*

Experiments with sulphurous-acid inhalations in pulmonary tuberculosis date from the communication of Dr. Sollard to the Academy of Medicine, March 8, 1887. In this communication, Dr. Sollard reports the radical cure of a case of phthisis as the result of prolonged sojourn in a sulphurous atmosphere. The patient was a marine officer at Cherbourg. He had all the signs of confirmed phthisis; there were, besides, abundance of the characteristic tubercle-bacilli in his sputa. Repeated daily inhalations, four hours at a time, of the fumes of burning sulphur, in a close room, cured him of his disease; there was a total disappearance of all the stethoscopic signs, of the constitutional symptoms, and of Koch's bacilli. Since then, Balband, of Cherbourg, has tried this method in eight cases, reported in the *Bulletin Général de Thérapeutique* (October 1st). In all these there has been much improvement after four months' treatment, although the Cherbourg physician has not noted any marked diminution in the quantity of tubercle-bacilli in the sputa. Moreover, Dr. Auriole, of Bellegarde-du-Gard, has recorded seventy trials of these inhalations in as many phthisical patients, and claims cures in some cases, and amelioration in all.[1]

Sollard advises the following mode of procedure: "In a close room, burn a quantity of sublimed sulphur equal to from ten to twenty grammes per cubic meter; then wait twelve hours, and, without opening the doors or windows, admit your patients, and make them sojourn eight hours in this room." Dujardin-Beaumetz, who has made trials of this method in Cochin Hospital, admits his patients to the sulphurous fumes two hours after the combustion of the sulphur, of which he uses, first five, then ten, then fifteen, then twenty grammes per cubic meter. The patients are kept four hours in this room. "Under the influence of this treatment," he says, "we observe a speedy change in the sputa. The cough diminishes, and the patients sleep much better. They also have a better appetite."

It might be supposed that these sulphurous inhalations would be very irritating to the weak lungs of the phthisical, that coughing would be promoted, and that hæmoptysis would be excited. It would seem that none of these fears have been realized. Naturally, apyretic cases have been chosen as the subjects of this experimentation.

MEDICINAL LIQUID VASELINE.

A NEW VEHICLE FOR HYPODERMIC INJECTIONS.

HYPODERMIC medicine seems likely to realize an immense extension in the use, as an excipient for medicinal substances which it is desired to introduce subcutaneously, of a petroleum product which comes from Europe, and especially from the mountainous regions of Russia, and is known as *liquid vaseline.* This is one of the final products of the distillation of petroleum — coming over after paraffine — and is purified by filtering through animal charcoal. Its solvent powers are immense, multitudes of vegetable and mineral substances readily dissolving in it, and what renders this oil especially valuable is that it is not only unirritating of itself, but it so sheaths and modifies medicaments of a locally irritant character (rendering them bland) as to constitute them suitable and safe for hypodermic use.

Among the substances soluble in liquid vaseline, we may enumerate, eucalyptol, iodoform, turpentine, phenol, thymol, iodine, menthol, chloroform, ether, salol, sulphide of carbon, sulphuretted hydrogen, myrtol, cocaine, atropine, aconitia, caffeine, calomel, phosphorus, bromine, etc. Dr. Albin Meunier has most patiently and successfully worked out the requisite formulæ for hypodermic injections with liquid vaseline for their basis; among these formulæ none seems to have given better satisfaction in pulmonary and bronchial complaints than the combination of eucalyptol with liquid vaseline; one part of the former to five of

[1] Bull. Gén. de Ther., t. cxiii, p. 166.

the latter. Five cubic centimetres of this solution are injected into the gluteal region night and morning, and under this treatment has been noticed a marked lessening of the cough and expectoration. A two-per-cent. solution of iodine in liquid vaseline is highly spoken of in asthma, emphysema, the uric diathesis, etc.; the dose is one syringeful, to be injected into the outer part of the thigh. A twenty-per-cent. solution of chloroform is recommended to be injected in sciatica and other painful affections, and a ten-per cent. solution of salol is well spoken of in sciatica. The injections must be made deeply in the muscles. There are formulæ for bromine for antisepsis in diphtheria, and calomel for administration in syphilis.

Bourneville and Bricon have recently published a series of convenient formulæ, with liquid vaseline for basis, in their therapeutic manual, and the members of the Societé de Thérapeutique seem enthusiastic in their praises of the new mode of treatment, which bids fair greatly to add to our therapeutic resources by enabling us to use hypodermically multitudes of remedies which heretofore could not be administered in this way.

Liquid vaseline, according to Roymond, is the result of the depuration of the mineral oil of Baccou in Russia. In distilling this oil, several intermediate substances first come over (ethers and illuminating oils) finally paraffine and liquid vaseline. The Germans call the latter *liquid paraffine.*

MEDICAL NOTES.

— Since the last report one new case of cholera has developed among the *Alesia's* passengers detained under observation on Hoffman's Island, New York Harbor. The case is a child, several other members of whose family had the disease.

Another Italian emigrant steamer, the *Britannia*, was detained under observation in New York harbor, under suspicious circumstances, and two of her passengers are just reported as dying from cholera. There are now three separate lines of steamers, besides sailing vessels, plying between Palermo and Naples, and New York. These steamers, as a rule, make the round of the chief ports of Sicily,— Messina, Catania, and Palermo,— and then proceed to Naples whence they depart for New York.

These steamers bring very large numbers of emigrants from the lower classes in Italy, and under existing circumstances — notwithstanding the season of the year — they cannot be too carefully watched.

The United States Consul at Rome in a dispatch to the Treasury Department, dated Sept. 21st, says:

"Cholera has prevailed in certain parts of Sicily since the early spring. With the beginning of summer the disease appeared at some southern places on the mainland, also in the environs of Naples, and finally in that city early in August. Up to the present time neither the government nor other authorities give any information, statements, or bulletins concerning it, with the exception of in Sicily, from whence the associated press of Italy, under government surveillance, telegraphs daily showings for the chief cities of Sicily. Besides these chief cities — Palermo, Messina, and Catania — I have the best reasons for believing that many scattered cases of cholera are now occurring daily, not only in Sicily, but in many ports and places in the southern and central portions of the mainland, notably south of a line drawn from the Mediterranean opposite Rome across to Ancona, on the Adriatic. The various Mediterranean countries have now in force quarantines against Italy, extending from five to twenty-one days, for vessels from any port of Italy whatsoever. The sanitary measures of the Italian Government and local authorities are energetically enforced, and are deserving of every praise.

"During the last four years Italy has suffered so much from cholera and from quarantines, both foreign and domestic, that the present action of the government in withholding information relating to certain parts of the kingdom may be attributed to a desire to carry out the results of experience, and not to any lack of good faith. But at the same time it is true that as regards information relating to the disease on the mainland, no facilities are given for arriving at the truth. . . . There is now a quarantine observation of two days for detached soldiers on furloughs coming north of the line of railway between Rome and Ancona. Otherwise, there are no restrictions in Italy on commerce or travel by land or sea, except the prohibitory measures against old rags, already reported to the Department. Vessels communicate freely between the infected and non-infected ports of the kingdom."

— Up to October 21th, about one hundred and eighty cases of yellow fever had been reported at Tampa, Florida, with twenty-seven deaths. The construction of a temporary hospital building had been authorized by the Marine Hospital Bureau, and a sufficient staff of acclimated nurses to aid in caring for the sick has since arrived from Savannah. At the latest accounts the weather was reported as warmer and more unfavorable, and the disease as spreading in the better parts of the town and its suburbs.

— A contemporary tells the somewhat remarkable story of a physician who walked in his sleep, and at one time had a patient some two miles distant, about whom he was very anxious. It was in the coldest of winter. One evening he found his patient in a very unsatisfactory condition, and remarked to the family that if he did not find him better the next visit, he would change the medicine. On rising the next morning, he went to the barn to put his horse into the cutter. He was perplexed in finding his rigging somewhat misplaced, but supposed that some one had thrown it about in search of a missing article. On visiting the patient, he was gratified in finding a marked improvement. He inquired when the improvement commenced, and was answered, "Immediately

after taking the powders which he had given in the night." The truth flashed across him at once that he must have been there in the night. Concealing his emotion, he inquired with a careless indifference: "About what time was it when I was here?" They replied: "About two o'clock." This proved to have been the case, as he afterwards was told by the family where he boarded.

BOSTON.

— Dr. Joseph Bechtinger, is to give a lecture on "True Leprosy, its Forms and Varieties from Personal Observations in different Parts of the World: also on other medical subjects, to be illustrated by the stereopticon." The lecture is to be given in Parker Memorial Hall, Thursday evening, November 3d. Tickets may be obtained at the janitor's office.

— We referred last week to the difference between the cattle commissioners and the Cambridge railroad, regarding cases of alleged glanders in the horses of the company. Four of these animals were slaughtered on October 19th, and after the autopsy had been held a radical disagreement was found between Dr. Winchester, of the board, and Drs. Lyman, Harrison and Bryden, the veterinarians employed by the road, the latter gentlemen maintaining, it is said, that two of the horses had not been afflicted with the disease. It is reported that since the autopsy there is a difference of opinion between the members of the cattle commission as to the proper action to be taken by the board. Dr. Winchester stated that his examination, both before and after death, showed unmistakable evidence of glanders, and that a suspicion of the existence of this disease should unfit horses for work and association with healthy horses. In this view he claims to be supported by several veterinary surgeons who were present at the post-mortems. On the other hand, Messrs. Levi Stockbridge, and A. W. Cheever, the other members of the commission, acknowledge that the diagnosis of Dr. Winchester, based upon his ante-mortem and post-mortem examination, is correct, so far as these examinations have revealed certain characteristic marks, such as usually accompany chronic glanders, but, judging from the appearance of the quarantined animals, their general health and their ability to work, they maintain that the marks do not indicate their unfitness for service. The majority of the board, therefore, does not believe in the necessity of a wholesale slaughter. It was finally voted that a communication be sent to the Cambridge road, ordering the release from quarantine of ninety-five of the animals, and that the remainder of those in confinement, some sixty or seventy in all, be isolated in a separate stable, pending further examination, to begin on Monday, October 24th.

NEW YORK.

— Exercises will be held on the occasion of the opening of the new buildings of the Skin and Cancer Hospital, at the Country Branch, Fordham Heights, near New York City, Saturday afternoon, October 29th, at two o'clock. The exercises will consist of an address of welcome by the President of the Hospital, an address on Cottage Hospitals by the President of the Medical Board, Dr. A. Jacobi, reports of the Medical Board and the Treasurer, and addresses by Judge H. E. Howland and Rev. Dr. H. J. Van Dyke, Jr.

The Country Branch Hospital is situated at Fordham Heights, about one mile above High Bridge, between Sedgwick Avenue and the old McComb's Dam road, an hour and a quarter's drive from 59th Street entrance to Central Park.

— The following new appointments have been made by the Directors of the New York Post-Graduate Medical School and Hospital. Dr. Robert Abbe, Professor of Clinical Surgery; Dr. Henry D. Chapin, Professor of Diseases of Children; Dr. J. H. Girdner, Instructor in Clinical Surgery; Dr. O. M. Phelps, Professor of Orthopædic Surgery.

— St. Luke's day, October 18th, was celebrated at St. Luke's Hospital by the inauguration, with appropriate ceremonies, of an annex to the building which increases the accommodations for patients to about two hundred. The addition has been erected with a portion of the legacy of $100,000 left to the Hospital by the late William H. Vanderbilt. During the past year a number of free beds in perpetuity have been established by various other friends of St. Luke's, and the institution is in a flourishing condition. At the annual meeting of the St. Luke's Hospital Association, a rule was adopted, to the effect that in the future, applications for the position of attending physician to the hospital shall be received only upon condition that the applicant is not holding a position in any other hospital.

PHILADELPHIA.

— A complimentary dinner was lately given to Dr. J. Ewing Mears at the Hotel Bellevue. Professor J. M. Da Costa, M.D., presided, and a large number of the leading members of the profession were present.

Miscellany.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

A MEETING of the Executive Committee of the Congress of American Physicians and Surgeons, for the purpose of organization, was held on October 5th, in the Hall of the College of Physicians of Philadelphia. The special societies were represented as follows:

American Surgical Association, Dr. Claudius H. Mastin, of Alabama.

American Otological Association, Dr. Cornelius R. Agnew, of New York.

American Ophthalmological Association, Dr. D. B. St. John Roosa, of New York.

American Laryngological Association, Dr. J. Solis Cohen, of Pennsylvania.

American Neurological Association, Dr. L. Carter Gray, of New York.

American Dermatological Association, Dr. I. E. Atkinson, of Maryland.

American Climatological Association, Dr. A. L. Loomis, of New York.

Association of Genito-Urinary Surgeons, Dr. John P. Bryson, of Missouri.

American Association of Physicians, Dr. William Pepper, of Pennsylvania.

The Committee was organized by the election of Dr. Pepper as Chairman, and Dr. Bryson as Secretary.

It was decided to hold the Congress of 1888 in Washington, D. C., on Tuesday, Wednesday, and Thursday, September 18th, 19th, and 20th, respectively. The sessions of the Congress will be held in the evenings, leaving the mornings and afternoons free for the sessions of the special societies participating.

The following officers of the Congress were elected:

President.—Jno. S. Billings, M.D., LL.D., U.S.A., of Washington, D. C.

Vice-Presidents. — The Presidents-elect of all the participating societies.

Treasurer.— Dr. W. H. Carmalt, of Connecticut.

The arrangement of the programme for the sessions of the Congress was referred to the President, the Secretary, and the Chairman of the Executive Committee.

CÆSAREAN SECTION BY THE BISON'S HORN.

Dr. R. P. Harris has published in the July and the October numbers of the *American Journal of Obstetrics* a series of cases of the ripping open of pregnant women by the horns of animals. Ten of the rips opened the womb, three did not. The latter all recovered, did not miscarry, and bore living children at maturity. Of the ten hysterotomies, six women survived with four of the nine matured children. The last case, was personally witnessed by Dr. Powell, at that time a boy. A bison bull gored the abdomen of a squaw, tore out a fœtus and carried it on his horns some twenty yards. The child was of course killed, but the woman survived and made a good recovery under Indian treatment, which is as follows:

A plastic clay is selected, such as may in emergency be dug up from beneath a "buffalo wallow," and made into a stiff mud with water; the wound is held together, while a thick coating is applied; then over this is placed a layer of woody fibre crossed upon it in every direction: then another coat of mud, and so on, until a cake of two inches thick covers the abdomen from flank to flank, the patient being kept upon his back during the treatment. The Pawnees, Utes, Apaches, Sioux, and Comanches make use of silky fibres obtained from plants for holding the clay together. The sage-brush, so common in Indian regions, furnishes one source of supply; another is a species of evergreen, unknown by name to Dr. Powell, which grows high up in the snowy range of the mountains. In extraordinary years, the fall of snow reaches from twenty to forty feet in depth, covering the trees. The snow partially melts, then freezes, and finally sinks in the warm season, stripping down the bark to the roots, and tearing out the inner bark into long thin strips, which are gathered by the Indians for use in dressing wounds. Choice clays are also stored up and kept for the same purpose.

In 1865, Dr. Powell accompanied a United States expedition, with Omahas and Pawnees, across the plains, and encountered Black Bear and his band of Arrapahoes, on Tongue river, now in Montana. In hand-to-hand fights, three young braves in their teens, had their abdomens cut open, and in two the intestines protruded; whether in the third case the peritoneal cavity was opened he cannot say. These youths were treated by their companions in the way already described, and two of them recovered.

A Mexican correspondent of the same journal records another case in which a woman eight months pregnant was gored by a cow, the rent through the abdomen being eight inches long. A physician discovered the buttock of the child protruding, dilated the wound a little, and withdrew the child, which was living and unhurt. The womb at once contracted, with the placenta inside. He cut the cord as far down as possible, replaced it through the rent, and sewed up the abdomen. The placenta was delivered per vias naturales and the woman recovered, though after a violent peritonitis.

Such facts do not prove that the bison or the cow is a better performer of the Cæsarean section than a surgeon. They do show, however, that the mortality of the operation in strong healthy women, unexhausted by fruitless labor pains, need not be very high. The discouraging records of the operation are those furnished usually by rachitic or otherwise deformed persons in whom the operations were deferred to the last moment and then undertaken as a forlorn hope. Then if the bison's instrument for operation is not aseptic, the air of the prairies is, wherein it possibly compares favorably with the hospitals in which the more formal section is performed.

Correspondence.

STRYCHNIA IN SEA-SICKNESS.

Bridgeport, Conn., Oct. 21, 1887.

Mr. Editor,—The perusal of an article on the treatment of sea-sickness by strychnia and atropia in a recent number of your Journal, induces me to contribute an item in regard to the management of this distressing malady.

Some seven or eight years ago, while on a trip to Savannah, six of the lady passengers were severely attacked with sea-sickness when only about twelve hours out. Fully concurring with Dr. Skinner's theory of the pathology of the disease, I directed each patient to take one-fortieth of a grain of sulphate of strychnia every fourth hour. Five were well after the fourth dose, and remained so to the end of the voyage. The sixth was a delicate young lady, in the second stage of phthisis pulmonalis, and was so prostrated that actually I feared death by asthenia. She was panic-stricken and importuned so earnestly for immediate relief, that I substituted for the strychnia, twenty drop doses of chloroform in water. This only aggravated the symptoms, so I returned to the strychnia, and after a few additional doses she was well.

I have crossed the Atlantic six times, traversed the whole Atlantic coast from Florida to Halifax, made one trip to the Bermudas, incidentally treating many victims of *mal de mer*, and I am prepared to declare emphatically that strychnia, pushed if necessary, *ad tolerandum*, has accomplished more in my hands than any one or all other remedies. I have had no experience with atropia, but should anticipate from its centrifugal influence on the circulation that it would prove a good adjuvant to the strychnia. Cocaine, one-sixth to one-quarter of a grain, has proved an excellent palliative in my hands, but its influence, as also that of the bromides, has been transitory.

I have found no difficulty in my patients retaining the strychnia pellets or tablets, and, therefore, have not used it hypodermically.

Very truly yours, R. Hubbard, M.D.

GLEDITSCHINE-STENOCARPINE.

BROOKLYN, 314 State St., Oct. 15, 1887.

MR. EDITOR,—The fact, seemingly well proven by the experience of Drs. Seward, Claiborne, Knapp, Jackson, Mitchell and others, that the newly-discovered alkaloid, gleditschine-stenocarpine, is largely like cocaine in its power as a local anæsthetic, has prompted me to determine whether it has a value akin to the coca alkaloid, as a stimulant in the treatment of opium habitués, and I am now experimenting in this direction, using a two per cent. solution, exclusively by subcutaneous injection.

That cocaine, hypodermically, is a valued aid in treating the opiate neurosis, is beyond question, in my opinion, though it is not a specific, and should never be given, for this purpose, by the patient himself, be he physician or layman. Should gleditschine have a similar value, it may be found free from the ensnaring danger of cocaine, though, assuming the fact of its stimulant power, this freedom from risk will not be likely, and we shall note, probably, in the not far future baneful effects from its abuse, and gleditschine inebriety may be added to the list of toxic neuroses.

It has been stated by Dr. Seward that "he has observed antidotal effects to gleditschine from morphia," and Mitchell (W. H.) asserts, "it is a direct antagonist of morphia and opium, ten drops of the two-per-cent. solution neutralizing one grain of morphia or six of opium." Experiments on rabbits, now being made by myself, will, it is to be hoped, sustain these claims.

The two-per-cent. solution can be obtained from Messrs. Lehn and Fink, New York City, at a present wholesale cost of six dollars per ounce.

I shall be pleased to receive and report the experience which any reader of your JOURNAL may have on this subject.

Yours very cordially,

J. B. MATTISON, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 15, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	640	231	17.12	16.80	5.28	.96	6.88
Philadelphia	993,801	372	127	13.50	13.50	1.89	4.05	6.21
Brooklyn	745,108	286	120	21.70	12.25	3.50	2.10	11.10
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	164	81	20.13	10.37	7.93	1.22	6.71
Boston	400,000	165	52	17.08	14.03	4.88	1.22	4.88
New Orleans	242,750	121	35	24.07	9.96	2.52	—	8.30
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	83	30	20.40	18.00	6.00	4.80	2.40
Pittsburgh	210,000	—	—	—	—	—	—	—
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	21	6	19.04	28.56	9.52	4.76	4.76
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	19	5	73.64	15.78	36.82	—	36.82
Worcester	68,383	25	17	28.00	4.00	12.00	—	12.00
Lowell	64,051	28	14	35.70	10.71	21.42	3.57	7.14
Cambridge	59,000	16	5	18.75	6.25	—	6.25	—
Fall River	56,863	18	9	16.66	11.11	16.66	—	—
Lynn	45,861	13	—	—	30.76	—	—	—
Lawrence	38,825	18	4	11.11	11.11	—	11.11	—
Springfield	37,577	20	5	40.00	5.00	5.00	—	30.00
New Bedford	33,393	19	11	31 56	5.26	5.26	—	26.30
Somerville	20,192	9	2	33.33	11.11	22.22	—	11.11
Salem	28,084	20	7	25 00	20.00	—	—	25.00
Holyoke	27,894	5	2	—	—	—	—	—
Chelsea	25,709	11	0	27.27	—	18.18	—	—
Taunton	23,074	7	1	28 56	—	—	28.56	—
Haverhill	21,795	6	0	50.00	—	16.66	—	33.33
Gloucester	21,713	7	1	—	14.28	—	—	—
Brockton	20,783	3	1	—	—	—	—	—
Newton	19,759	4	1	—	—	—	—	—
Malden	16,407	4	1	25.00	—	—	25.00	—
Fitchburg	15,375	10	5	10.00	10.00	10.00	—	—
Waltham	14,699	6	2	—	—	—	—	—
Newburyport	13,716	3	0	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2.123: under five years of age 775; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 401, consumption 288, lung diseases 185, diphtheria and croup 103, diarrhœal diseases 109, typhoid fever 43, malarial fever 31, scarlet fever 28, whooping-cough nine, cerebro-spinal meningitis seven, measles five, puerperal fever five, erysipelas (New York) one. From malarial fever, New Orleans 15, New York seven, Brooklyn five, District of Columbia three, Philadelphia one. From scarlet fever, New York 10, Boston eight, Brooklyn six, Philadelphia, Worcester, Lowell and Cambridge one each From whooping-cough, Baltimore four, Philadelphia two, New York, Brooklyn and Boston one each. From cerebro-spinal meningitis, New York five, Springfield and Chelsea one each. From puerperal fever, Baltimore three, New York and Philadelphia one each. From measles, District of Columbia three, Boston and Cambridge one each.

In 22 cities and towns of Massachusetts with a population of 1,051,354; the total death-rate for the week was 18.92 against 20.71 and 19.26 for the previous two week.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending October 1st, the death-rate was 17.5. Deaths reported 3,097: infants under one year of age 774; acute diseases of the respiratory organs (London) 219, diarrhœa 168, scarlet fever 86, whooping-cough 58, fever 62, measles 39, diphtheria 36, small-pox (Sheffield 10, Bristow one) 11.

The death-rates ranged from 12.8 in Brighton to 31.6 in Preston; Birkenhead 15.5; Birmingham 17.7; Bradford 20 7; Halifax 25.7; Hull 17 3; Leeds 18.4; Leicester 17.5; Liverpool 21.0; London 15.4; Manchester 24.5; Nottingham 15.8; Sheffield 15.5; Sunderland 19.3.

In Edinburgh 16.7; Glasgow 17.1; Dublin 30.9.

The meteorological record for the week ending October 15, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Oct. 15, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,... 9	29.94	58.0	62.0	55.0	77.6	86.0	84.0	82.0	N.F.	S.E.	S.	4	8	5	O.	O.	O.	7·60	T*
Monday,...10	29.81	62.0	66.0	58.0	92.0	89.0	92.0	91.0	S.	E.	S.	3	5	8	F.	O.	C.		
Tuesday,..11	29.71	50.0	64.0	45.0	100.0	67.0	79.0	82.0	N.W.	N.W.	N.	11	12	14	R.	O.	O.	12	.76
Wednes.,.12	29 97	45.0	52.0	40.0	74.0	55.0	77.0	69.0	W.	N.W.	W.	8	12	8	F.	F.	C.		
Thursday, 13	29.95	52.0	62.0	39.0	65.0	44.0	88.0	66.0	S.W.	S.W.	S.W.	11	13	16	F.	O.	C.		
Friday, ...14	29 99	47.0	56.0	43.0	85.0	54.0	70.0	69 0	W.	N.W.	N.	10	12	20	C.	O.	C.		
Saturday,. 15	30.38	43.0	52.0	34.0	74.0	43.0	68.0	62.0	N.W.	W.	W.	12	14	8	C.	C.	C.		
Mean, the Week.	29.960	51.0	59.0	45.0				74.4										12 7·16	.76

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 15, 1887, TO OCTOBER 21, 1887.

WOLVERTON, W. D., major and surgeon. Detailed as member of Army Retiring Board at Washington, D. C., convened by S. O. 78, A. G. O., April 5, 1887, *vice* Major C. C. Byrne, surgeon, hereby relieved. S. O. 241, A. G. O., October 15, 1887.

GARDNER, EDWIN F., captain and assistant surgeon. Relieved from duty at Fort Reno, Ind. Ter., and ordered for duty at Fort Lewis, Col. S. O. 241, A. G. O., October 15, 1887.

COCHRAN, JNO. J., captain and assistant surgeon. Now on duty at the Presidio of San Francisco, Cal., is assigned to temporary duty at Headquarters, Division of the Pacific, as assistant to the medical director of that division. S. O. 244, A. G. O., October 19, 1887.

EWING, C. B., first lieutenant and assistant surgeon. Granted leave of absence for one month, on surgeon's certificate of disability. S. O. 112, Department of Missouri, October 18, 1887.

APPOINTMENT.

JARVIS, NATHAN S., to be Assistant Surgeon, with the rank of First Lieutenant, October 14, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 22, 1887.

BEYER, H. G., passed assistant surgeon. Ordered to hold himself in readiness for orders to the "Trenton."

WHITE, S. S., assistant surgeon. Ordered to hold himself in readiness for orders to the "Trenton."

STEPHENSON, F. B., passed assistant surgeon. Detached from the "Bache," and ordered to the Navy Yard, Boston.

STONE, E. P., assistant surgeon. Detached from the "New Hampshire," and ordered to the "Bache."

STREET, T. H., surgeon. Detached from the "Patterson," and placed on waiting orders.

VACANCIES IN THE MEDICAL CORPS OF THE NAVY.

A Naval Medical Examining Board is now in session at the Naval Hospital, Philadelphia, Pa., for the purpose of examining candidates for admission to the Medical Corps of the Navy. Circulars of information can be obtained on application to the President of the Board. There are twelve vacancies in the list of assistant surgeons.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.— There will be a meeting of this Section on Wednesday evening, November 2d, at eight o'clock. Drs. J. W. Elliot and F. B. Harrington will read a short communication on "Dislocation of the Thumb," and will show cases. Dr. F. S. Watson will present a paper on "A Comparison between the Different Methods of Treatment of Stricture of the Male Urethra." In connection with the above, Dr. G. W. Allen will relate his experience in the use of electrolysis in the treatment of stricture.

G. H. MONKS, M.D., *Secretary*.

SUFFOLK DISTRICT MEDICAL SOCIETY. — There will be a stated meeting on Saturday, October 29, 1887, at 8 P.M., at 19 Boylston Place. Dr. J. Leslie Foley will read a paper upon "The Hair: its Diseases and Treatment." Dr. O K. Newell will show Leiter's Panelectroscope and his own improved Endoscopic Tubes, and demonstrate their use. Dr. G. W. Allen will show a set of Klotz's Endoscopes, and report illustrative cases. Report of Committee on Stenographer. Choice of a Committee of five to prepare a list of Candidates for Officers of the Society. Supper after the meeting. Members are requested to notify the Secretary of any change of address.

HERBERT L. BURRELL, M.D., *Secretary*.

BOOKS AND PAMPHLETS RECEIVED.

University of Toronto. Medical Faculty: Calendar. Session 1887–88.

Pathology and Treatment of Ringworm. By George Thin, M.D. London: J. & A. Churchill. 1887.

The Chemistry of Nitrogen as Disclosed in the Constitution of the Alkaloids. By Albert B. Prescott. 1887. (Reprint.)

The Diagnosis and Treatment of Eczema. By Tan Robinson, M.D., L.R.C.P., (London.) London: J. & A. Churchill. 1887.

Cholera and Water in India. By M. C. Furnell, M.D., F.R.C.S., Companion of the Indian Empire; Fellow of Madras University, etc. London: J. & A. Churchill. 1887.

Announcement of Systematic Courses of Instruction in Ophthalmology and Otology, at the Illinois Charitable Eye and Ear Infirmary, Corner West Adams and Peoria Streets. 1887.

Operative Surgery on the Cadaver. By Jasper Jewett Garmany, A.M., M.D., F.R.C.S., Attending Surgeon to the Out-Door Poor Dispensary of Bellevue Hospital. New York: D. Appleton & Co. 1887.

Grand Canary as a Health Resort for Consumptives and Others. By Mordey Douglas, L.R.C.P., M.R.C.S., Eng., Consulting Physician to the Sunderland Infirmary, etc. London: J. & A. Churchill. 1887.

Hay Fever. The First Prize Essay of the United States Hay Fever Association for 1887. By Seth S. Bishop, M.D., Surgeon to the Illinois Charitable Eye and Ear Infirmary, to the South Side Free Dispensary, etc., Chicago, Ill. 1887. (Reprint.)

Treatise on Human Physiology. For the Use of Students and Practitioners of Medicine. By Henry C. Chapman, M.D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia, etc. Philadelphia: Lea Brothers & Co. 1887.

Functional Nervous Diseases: Their Causes and Their Treatment. Memoir for the Concours of 1881–83. Académie Royale de Médecine de Belgique. With a supplement on the anomalies of refraction and accommodation of the eye and of the ocular muscles. By George T. Stevens, M.D., Ph.D. New York: D. Appleton & Co. 1887.

Manual of Clinical Diagnosis. By Dr. Otto Seifert, Privatdocent in Würtzburg, and Dr Friedrich Müller, Assistent der Med. Klinik in Berlin. Third Edition. Revised and corrected by Dr. Friedrich Müller. Translated with permission of the Authors. By William Buckingham Canfield, A.M., M.D. (Boston). With sixty illustrations. New York and London: G. P. Putnam's Sons. 1887.

Original Articles.

A CASE OF PAPILLOMA OF THE MALE BLADDER SUCCESSFULLY REMOVED BY THE SUPRA-PUBIC OPERATION.[1]

BY F. S. WATSON, M.D.,

Surgeon to Out-Patients, Boston City Hospital, Surgeon of the Genito-Urinary Department, Boston Dispensary.

The patient whom I show here to-night, is a man of thirty-one years of age, who was referred to me by Dr. Forster, of Charlestown, early in July last. He had had several attacks of clap, from all of which he had made a complete recovery; with this exception had been entirely well up to seven months previously.

At that time, without provocation, he passed a good deal of blood with the urine, and pain attended the act; two months later he began to notice an increased frequency of micturition, and also observed some fleshy-looking bodies in the urine.

These symptoms, namely, hæmaturia, frequent urination, pain on passing water, and the passage of small fleshy bits, continued, with occasional remissions, up to the time I first saw him. The presence of blood and pain was not dependent upon exertion.

The patient steadily lost flesh and strength, and was going down hill fast. Examination showed the following condition: meatus, 21 (French). A No. 21 steel sound passed smoothly into the bladder. Search for stone was negative, nor did the sound meet with any abnormal obstruction.

Rectal examination gave a prostate of normal size and consistency. The bladder wall was pliant and of normal character, except that just above the base of the right lobe of the prostate, there was a small area of increased resistance. There was no tenderness upon pressure above the pubes, and bi-manual palpation with one finger in the rectum and the other hand above the symphysis pubis, revealed nothing abnormal. The urine was drawn, and the bladder washed out with a large-eyed silver catheter. In the washings were several small fleshy-looking masses.

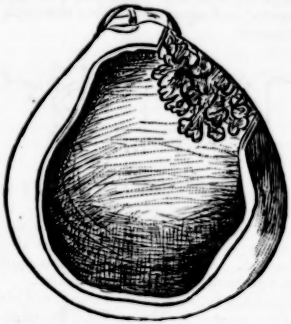
Examination by Dr. W. W. Gannett showed them to be very characteristic pieces of a papilloma.

The urine contained much blood and pus, a large number of epithelial cells, some of which had very large nuclei. The examination increased the hæmorrhage, but not seriously. The diagnosis was made of a sessile papilloma, situated on the floor of the bladder, immediately above the right lobe of the prostate, which was subsequently found to be the case.

July 19th. The patient was etherized, Drs. Forster, Cabot, Tilden, Elliot, Cushing and Lovett being present. The supra-pubic operation was performed, after the manner recommended by Peterson, thus:

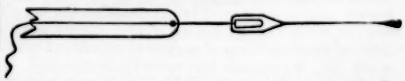
The bladder was emptied, and washed out with warm four per cent. boracic-acid solution, ten ounces of the same were left in the bladder. The pear-shaped balloon was then inserted into the rectum, and ten ounces of warm water were injected into it, dulness on percussion then became evident for about four finger's breadths above the symphysis pubis, but the bladder did not protrude forward.

The anterior surface of the viscus was then exposed by an incision through the linea alba. The peritoneal covering was *not* seen, a tenaculum was inserted into the bladder at the upper angle of the wound to steady it, and it was then freely incised in its long axis. The growth was found exactly where it was expected, a sessile papilloma, for the most part not much raised above the surface, having two longer branches however, and covering a surface of the mucous membrane about one and a half inches by half an inch. (Its situation and character, are approximately shown in the accompanying diagram.) It was removed by the finger-nail and a curette, and bled very freely.



An attempt was made to get a good view of the bladder by means of the electric light. But it was of no use for this purpose, the growth being at the bottom of a deep pocket which was constantly filled with blood.

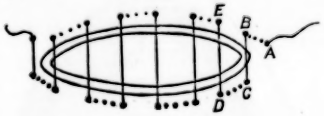
Before removing all the growth, perineal section was performed for the sake of ultimate drainage, and in order to keep a constant current of hot boric solution passing through the bladder and out over the pubes to wash away clots and keep the wounds clean. This step greatly aided us in the rest of the operation. The perineal opening was made by passing a large steel sound through the vesical neck, *from within*, lodging its point in the membraneous urethra, and then cutting down upon this from the perineum. The wound thus made was small, only just large enough to admit a No. 29 (French) large-eyed catheter, which was passed through the wound into the bladder in the manner recently recommended by Dr. Keyes, of New York; namely, by threading the catheter upon a knotted string which passes through the closed end of the instrument, against the inner surface of which the knot catches. This end of the thread is then tied to a probe which is passed through the wound into the bladder, and the catheter is drawn after it. The thread being then cut between the probe and the catheter end, is withdrawn by the end which hangs from the mouth of the instrument.



The wound in the bladder was then sutured, Dr. H. W. Cushing's continuous intestinal stitch being employed, and fine black sewing silk used. The ellipse represents the bladder wound: the suture begins at the right hand angle and ends at the left. The

[1] Reported to the Society for Medical Improvement, Oct. 10, 1887.

dotted lines represent the course of the stitch parallel to the long axis of the wound, running between the outer and inner wall of the bladder just above the mucous membrane, taken a short distance from the border of the cut surface, entering for example at *A*, going beneath the surface to *B*, crossing the wound to *C* again, penetrating the muscular layer at *C* to pass to *D*, across the wound again to *E*, and so on. When drawn tight the edges of the wound are slightly inverted and the suture buried out of sight. This suture is the neatest and most satisfactory one with which I am acquainted.



After its application, the bladder was filled to test its efficacy and found perfectly tight. The outer wound was then united by deep sutures, except at the lower angle into which two rubber drainage-tubes were inserted. Antiseptic dressing was applied and antiseptic precautions pursued throughout.

Hæmorrhage into the bladder continued during the day of the operation. The perineal drainage-catheter did not drain a drop of blood or urine through it. Vesical tenesmus was exceedingly severe during several hours succeeding the recovery from ether, the bladder straining to force out the clots which were too large and dense to issue through the catheter and urethra. Morphia failed to relieve this symptom, and in the evening the perineal drainage-tube was removed. The tenesmus was relieved, but did not cease for two days. As a consequence, a portion of the bladder suture gave way, allowing the escape of urine by the pubis. Tenesmus ceased entirely after this, and the patient was much more comfortable. Six days after the operation blood ceased to appear in the urine, and there has been none since.

In the hope of hastening the closure of the bladder-wound a catheter, *à demeure*, was placed in the bladder through the urethra. No urine passed after this by the wound so long as the catheter, which was changed daily, was in the bladder, and the wound closed rapidly. A severe cystitis, however, came on, due, I think, to the presence of the catheter, and it was removed at the end of ten days. A fistulous tract persisted in the upper wound after this until September 12th, when it closed entirely, at the end of seven weeks and a half from the date of operation. Its healing was, I think, hastened by the use of iodoform pencils. The bladder was irrigated twice daily during the larger part of the patient's convalescence with warm boric four per cent. solution, which though not so strong an antiseptic as some others in use has become, owing to its unirritating qualities, the favorite bladder wash. Under the use of this remedy and the internal administration of acetate of potash and sandal-wood oil, the cystitis has entirely disappeared, and the function of the patient's bladder is now perfectly normal; he can hold ten ounces of urine without the least discomfort, and urinates only once in four or five hours, and entirely without pain or annoyance. The perineal wound healed in a few days. The patient is now absolutely well, in every respect; he has gained fifteen pounds of flesh, and says he never felt better in his life.

This case is one of a class which, but a few years ago our best authorities would have pronounced hopeless, and allowed to die without interference. The fact that instead of such an outlook, we can from time to time, not only save the life of such patients, but as in the case here shown restore them to entire health and comfort, marks one of the most notable advances of modern surgery.

I do not propose to go into the subject of tumors of the bladder here, at all exhaustively, but simply to use this case as a text in outlining some of the main points in connection with this interesting subject. There is reason to believe, in spite of the free discussions and frequent careful reports of such cases as this, that many are still overlooked; whenever one is dealing with a case in which hæmaturia is a prominent symptom, too much care cannot be taken to discriminate carefully as to its source in the genito-urinary tract (by no means an easy task in many instances.)

The main characteristics of hæmorrhage arising from a growth in the bladder, are, that it is independent of exertion, frequently being most marked when the patient is at rest. The blood is usually fresh. If a catheter be passed the first jet flowing through it is apt to be bloody. If co-existant renal disease be absent, shown by the absence of casts, (through bodies closely resembling blood-casts are sometimes seen in the urine when the disease is limited to the bladder), if stone be absent, and if there are found associated with the blood in the urine many polymorphous cells, with large nuclei, the presumption is that there is a new growth in the bladder. If, in addition, by washing the bladder, or by movements of the catheter, bits of the tumor can be found, the diagnosis is of course, certain.

If the patient be elderly, the chances are that the disease is cancerous; if young, a benign papilloma is the probability. In the former class the prognosis is necessarily bad as to life, in the latter fairly good, if properly treated.

The diagnosis once established, we enter upon a much more debatable ground in considering the operative measures for the relief of the disease.

All surgeons agree that the removal of benign growths should be attempted. The division of opinion comes in cases of cancerous growths. Sir Henry Thompson who has had a larger experience in this class of cases than any one else, refuses to operate upon cancerous cases at all. Guyon, and other French surgeons' experience, on the other hand, has been confined chiefly to cancerous growths, upon which they have operated as a measure of relief.

My first case of this kind which resulted fatally from an extension of the disease, about three months after operation, and which I reported to this Society about four years since, was one of primary cancer of the bladder; the patient had had great suffering from attacks of retention, vesical tenesmus, and frequent and painful urination. The operation I then performed was a perineal section, scraping away with a currette all the villous surface of the growth I could, giving a thorough stretching to the vesical orifice and perineal drainage.

The result was a cessation of the hæmorrhage and great comfort to the patient for several weeks preceding his death. And in studying the results of

similar cases in the hands of other practitioners, I find that relief has followed operative treatment in the majority of instances. This, it seems to me decides the question without further debate, and I cannot see any reason for refusing to operate, to drain the bladder at any rate, even in cancerous disease.

Having decided to interfere, what operation shall we choose? The choice lies between the perineal route to the bladder and the supra-pubic. Here again we meet with a division of opinion. Thompson, who originated and practised the digital exploration of the bladder, advocates always making such an exploration through the perineum at any rate as a previous step, to find out what is before the operator, and is then governed according to circumstances. If, for example, he finds a broad-based large tumor, he relinquishes the attempt to extract it by the perineal opening, and proceeds to its removal by the supra-pubic method, which, he thinks, can be equally well done after the preliminary operation.

If he finds a pedunculated or a friable sessile growth of a benign nature he proceeds to remove it by blunt biting forceps or a curette, or his finger-nail, at once through the perineal wound.

Guyon and the French and German surgeons for the most part reject entirely the perineal operation, and practice the supra-pubic method. The chief claim put forth by the advocates of this procedure is that it gives a clear field of view for the operation, and that you can see as well as feel what you are about, and that there is more room to work in.

The latter operation was practically recreated by Peterson, who, in 1881, showed that by filling the bladder with from 400 to 600 cubic centimeters of fluid, and injecting the same quantity into a pear-shaped colpeurynter placed in the rectum, the bladder is raised and carried forward against the abdominal wall, in such a way that it is much easier of access above the pubes, and more especially that its anterior surface, so apposed, is free from peritoneum to the extent of from two to four finger breadths, thus avoiding what had always been considered one of the great dangers of the operation; namely, the wounding of the peritoneum. Under these conditions the operation sprang again into great popularity, and has, it seems to me, been carried somewhat too far, especially in dealing with stone. The best record of mortality it can show in the hands of skilful operators is about 14 per cent.

Two further questions are to be considered in the performance of the supra-pubic operation. Should the bladder be sewed up, after the removal of the growth or should it not, and should perineal section for purposes of drainage of the bladder be done as a supplementary operation or should a catheter be left in the bladder and urethra without perineal section?

The former question is a very interesting one, but involves a longer discussion than can be entered upon here. I will only outline a few of the main points concerning it.

The Frenchmen, for the most part, leave the bladder and outer wound open, and either let the urine drain as it will through the wound until healed, or place long, double drainage-tubes in the bottom of the bladder, and carry them out over the pubes, in the hope of their acting as a syphon, frequently, also, placing a catheter, *à demeure*, in the bladder through the urethra. It may be said here that neither the double drains nor the catheter, no matter of what size or shape, or how placed, will effectually prevent the urine from running over the edges of the wound and surrounding tissues, and that, so far as avoiding contact of the urine with the wound, the tubes are practically useless.

Among the Germans, we find the strongest advocates of the bladder-suture. Into the various methods of applying, which I will not now enter, but merely mention that the number of cases in which the suture has been applied is about sixty, and that about thirty per cent. of these have been successful; namely, have healed by first intention, and, even in such cases as the suture has given way, the ultimate recovery has not been prejudiced.

The decision as to whether you shall apply the suture or not depends, I think, upon what you have left behind in the bladder. My own case would make me very unwilling to sew up again where I had left a bleeding surface. I made a mistake, it is true, I think, in using no larger a perineal drainage-tube, but even that which *was* employed helped to excite vesical tenesmus, for this symptom was greatly relieved upon removing it. Moreover, I should think that the end of the tube, resting against the raw surface of the wound made by removing the growth, as it would do in an empty bladder, would cause renewed bleeding, and so keep up the accumulation of clots, which were also responsible, I think, for the vesical tenesmus, which, after the operation, was so great that I am confident that no suture could have resisted the strain, but must have given way, and, until it broke, the pain was excessive. Another consideration is the presence or absence of cystitis. Here, one is placed between two fires. The foul urine, making its escape through the wound, increases the chance of sepsis. On the other hand, a bladder which is the seat of cystitis is less likely to unite when sutured, and, moreover, the thorough drainage which the open wound gives is about the best treatment for the cystitis. Furthermore, the bladder can be kept fairly clean by irrigating it thoroughly, two or three times a day, with hot boracic solution.

The conclusions I should reach in regard to applying the suture would be these:

(1) Where hæmorrhage is going on, or likely to occur to any great degree after the operation, it is better not to sew up the bladder.

(2) Where neither cystitis nor hæmorrhage are present at the conclusion of the operation, always sew up.

(3) Where severe cystitis is present, the decision is doubtful. Further experience is needed to decide this point.

The great argument in favor of applying the suture is that, if successful, it greatly shortens the convalescence, and decreases the risks of that condition.

If the suture is to be applied, silk should be employed and left in the wound, and the stitches should be taken through the submucosa as nearly as possible, but carefully avoid putting them through the mucous membrane itself. Having dealt with some of the important features of the supra-pubic section, let us return to the original question of the choice between this and the perineal operation.

It has always seemed to me that Sir Henry Thompson had the best of the argument in the discussion which took place between him and Professor Guyon

on this subject, in advocating perineal section and the exploration of the bladder as a preliminary step for enlightenment in regard to the exact nature and location of the disease.

In the majority of cases, one cannot determine beforehand the extent and situation of the tumor, and often, not its exact nature. Perineal section is, in itself, not a dangerous operation, and, in case the tumor is of such a character that it cannot be removed, it leaves the patient (certainly when he has been the subject of painful urination) better off, on the chances, than he was before; and, if the tumor be of such a nature that it can be removed by the perineal opening, the patient has not been subjected to the more serious high operation. I think, however, exception should be made in the case of persons with hypertrophied prostates, for the possibility of reaching the bladder and working effectually in it is very doubtful.

The claim that one gets an open view of the field in supra-pubic cystotomy may sometimes be true, but I cannot conceive that this should be the case where bleeding is going on from the tumor, for then the view must, as it was in my case, be entirely obscured. Moreover, if the growth be situated on the floor of the bladder, about the trigonum, the distance to it by the supra-pubic route is quite as great as by the perineal. I do not see how any general law can be laid down in regard to the best operation to be performed. The operator should be free from prejudice in regard to both, and ready to avail himself of either; but I can see no reason against his doing the perineal operation first, removing, by preference, from this point all such growths as are susceptible of being so treated; or, finding this impossible, to relinquish the effort, and proceed at once to the supra-pubic operation.

This brings us, naturally, to the consideration of the last point; namely, shall one do a perineal section as a supplementary operation to the supra-pubic for drainage? In my own case, the catheter failed wholly to drain the bladder, and was a source of pain as well. This, however, might have been different had I used a larger tube. But the question seems to turn more upon whether one intends to sew up the bladder wound or not. If yes, then a large perineal drainage-tube is the most efficacious means of keeping the viscus empty, and taking the strain off the stitches until healing is complete. It has seemed to me that this was a more certain means of accomplishing this end than by the ordinary catheter *à demeure*.

If the wound be left open, no further drainage is necessary, and the perineal opening is not called for.

CONGENITAL TALIPES EQUINO-VARUS.[1]

BY CHARLES L. SCUDDER.

A FACT REGARDING THE PATHOLOGY OF CONGENITAL TALIPES EQUINO-VARUS.

SCARPA and Little found no alteration in the form or position of the astragalus in congenital club-foot. Adams found a twist in the neck of the bone, but used no method to measure the twist. Parker and Shattock have found an inclination inward of the neck of the bone which is not constantly present.

I have examined five cases of congenital talipes equino-varus, and in every case have found a marked inclination inward of the neck of the astragalus.

To determine the obliquity of the neck of the astragalus, I used the method of Parker and Shattock, of London. The astragalus, with its trochlear surface upward, and resting upon a horizontal board, was placed beneath a fine, black-silk thread, fastened to stiff wire uprights by means of rubber elastics, the thread being half-way between the anterior and posterior extremities of the trochlear surface. A second thread was fixed to wire uprights at right angles to this first thread, and the astragalus moved until the second thread was mid-way between the lateral borders of the trochlear surface, and parallel with its inner border. A third thread, fastened at either end to wire uprights, was placed along the outer edge of the neck of the bone. The angle formed by the meeting of the second and third threads was taken, in each case, as the measure of the obliquity of the neck with the body of the bone. The angle was measured by a protractor of brass held firmly and horizontally over, and in close proximity to, the threads.

The bone presents three points of contact with the board, and, as each of these points is on the border of an articular surface, and, therefore, relatively constant, there can be little variation in the relative position of any two trochlear surfaces.

I have described thus at length the method used in determining the angle to be measured, for the slightest variation in position of the threads or bone alters the angle.

The mean angle of obliquity of twenty-three *adult* astralgi is 13.98°.
The maximum angle is 24.00°.
The minimum angle is 5.00° (measured).
Two bones, which evidently were from aged adults, showed the neck to be parallel with the body.
In three cases only was it found to be over 20°.
In two cases it was 19.66°; in one case 18.00°.
In two cases each it was 17°, 16°, 15°, 14°, 10°.
In three cases it was 13°. In one case each, it was 6° and 5°.
The mean angle of obliquity of eleven *fœtal* astralgi measures 33.52°.
The maximum angle measures 45.50°.
The minimum angle measures 17.50°.
The mean angle of obliquity of the necks of two *fœtal varus* astragali is 50.50°.

Taking the mean of these observations and those of Parker and Shattock, we find that:

The mean angle of obliquity in forty-three adult astralgi is 12.32°.
The mean angle of obliquity in twenty-two fœtal astragi is 35.76°.
The mean angle of obliquity in seven varus astragi is 56.05°.

Comparing the mean angles, it is at once seen that decided differences exist at the fœtal and adult extremes of life.

The angle of the obliquity of the neck of the astragalus with the body of the bone decreases with the advance in age from fœtal to adult life.

In two cases of evidently aged adult bones, the neck of the astragalus is parallel with the body of the bone.

It is interesting that this relationship between advancing age and different positions in parts of the astragalus suggests the variations in the angle which the neck and shaft of the femur undergo.

The obliquity of the neck of the astragalus is not constant for the same age within the main divisions, fœtal and adult; that is, astralgi from two different fœtuses, each seven months old, would not necessarily have necks of the same obliquity. In many of the fœtal specimens there was no varus, and yet a great degree of obliquity of the neck, almost as much, and, in some cases, more than is found in varus feet. The deformity, therefore, is not dependent alone upon the alteration of the neck of the astragalus.

[1] The Boylston Prize Paper of the Boylston Medical Society of Harvard University for the year 1887. Concluded from page 399.

Shattock and Parker mention a case in which there was marked deformity of the foot not easily corrected, in which case the angle of the neck with the body of the bone was less than the normal fœtal average.

I believe the change in the obliquity of the neck of the astragalus to be a part of the normal development of the bone.

Let *a b* of Figure 16 represent the body of a right astragalus, and *b c* the neck of the bone. Let the angle, *a b c*, be the mean fœtal angle of obliquity of the neck and body of the bone. If the bone develops *normally*, then we may suppose that the axis of the neck moves in the direction of the arrow, assuming positions varying with age.

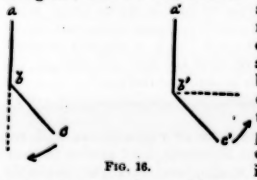


FIG. 16.

Let *a' b'* represent the body, and *b' c'* the neck of an astragalus of a right foot. Let the angle, *a' b' c'* be the mean fœtal angle of obliquity. If the bone develops to a *varus* deformity, then we may suppose the angle, *a' b' c'* to persist, or to change, according as the axis of the neck remains fixed, or moves in the direction of the arrow opposite to the direction of the arrow in the first figure.

The relation between the degree of obliquity and the age of the subject has not yet been established any more satisfactorily than the relation between the degree of rotation inward of the thighs and the varosity of the feet.

We know that in early fœtal life varus is physiological.

We know that, in very early fœtal life the thighs are often rotated outward.

We know that, in fœtal life, the varus foot presents a marked obliquity of the neck of the astragalus. In later life, all these conditions are different: the varus disappears, the thighs are usually not so much rotated out, the obliquity of the neck of the astragalus is greatly diminished.

The varus cases cited by Parker and Shattock, in which the angle of obliquity was nearly 31°, against the healthy mean, in their cases, of 38°, and the varus mean, in their cases, of 49.60°, is a barrier to definite conclusions as to constancy in changes in the astragalus.

My conclusions are:

(1) The obliquity of the neck of the astragalus is greatest in cases of varus, less in normal, and least in adult feet.

(2) A change in the obliquity of the neck of the astragalus is a part of the development of that bone, whether it be in a normal or varus foot.

(3) In all probability, this obliquity of the neck of the astragalus offers greater resistance to the reduction of the deformity in cases of congenital varus or equino-varus past the first few years of life than has hitherto been supposed.

RETARDED ROTATION OF THE THIGH INWARD NOT YET PROVED TO BE THE CAUSE OF CONGENITAL TALIPES EQUINO-VARUS.

H. W. Berg, of New York, in a theory advanced a few years since, makes the relative position of the foot and leg to depend upon the absolute position of the thigh and leg.

He says, in substance, that in early fœtal life the extensor surfaces of the upper and lower limbs look dorsally, and eventually, rotation takes place in such a direction as to bring the extensor surface of the lower extremity forward, and that of the upper extremity backward. The cause of this rotation is unknown, but is supposed by some to be due to the phenomena of growth.

The rotation begins about the second month, is to a great extent accomplished by the fourth month, and is completed by the end of the fifth, or beginning of the sixth month.

In a healthy fœtus, but little of the outward rotation of the leg or of the varus of the foot remains after the end of the sixth month. The foot is so placed by the outward rotation of the thigh and flexion of the thigh upon the abdomen, and partial flexion of the leg on the thigh, that the intra-uterine pressure causes an equino-varus position to be assumed by the foot. Later, by inward rotation of the thigh, the positions of the thigh, leg and foot are so altered that the soles of the feet lie against the uterine walls, and the intra-uterine pressure is exerted directly upon them. "Thus is antagonized," by intra-uterine pressure favorably exerted, "the varus or equino-varus which existed hitherto."

Upon the completeness of the inward rotation depends the rectification of the early varus of the foot.

During embryonic life a varus deformity is present as long as the leg has not completed its inward rotation. Should this rotation never take place or be incomplete, the child will be born club-footed.

The physiological and pathological varus is seen, according to this theory, to be dependent upon the primary outward rotation of the thigh in early fœtal life.

This theory seems to me to be the old mechanical idea modified by the factor, retarded rotation. In the mechanical theory there is an *accidental* position of the fœtal parts. According to this theory, the position of the fœtal extremities is *determined* by the amount of inward rotation of the thighs.

Berg calls especial attention to the fact that he considers that no extraordinary amount of intra-uterine pressure is necessary to produce the deformity, its cause being not pressure, but a retarded rotation inward of the thighs. In another place he says most emphatically, that the cause of the deformity *is* pressure. The reader is left in doubt as to his meaning. From the context, I judge him to believe that some pressure is necessary, else how could a mere movement of rotation occurring at the hip-joint cause a deformity in the foot. It is yet unsettled whether or no any pressure is exerted by the uterus upon the fœtal body or any part thereof sufficient to cause deformity.

According to the theory, rotation outward of the thigh is always associated with a degree of varus or equino-varus, and a completed rotation inward is never found with a case of varus or equino-varus. In other words, every case of congenital equino-varus should present at birth an extremity rotated out, this rotation being proportioned to the degree of deformity.

Berg has examined specimens in the New York Hospital and Wood's Museums in New York city, and places on record eight cases which are to illustrate his theory. He finds a progressive change in

the position of the extremities corresponding to different periods of fœtal life.

Through the kindness of Dr. C. S. Minot, of the Harvard Medical School, I have been permitted to examine over sixty-nine fœtuses of different ages, found in his collection, and I have also examined a few found in the Wyman collection of the Boston Society of Natural History, and I have been unable to discover that close association of non-rotation inward of the thighs with varus or equino-varus that Berg insists upon.

To determine whether or no there is rotation of the thigh outward is not easy. I have determined it by the position of the patella and by the position of a plane perpendicular to the extensor surface of the thigh.

To determine whether or no varus exists is not always easy, for it may be mistaken for an inward rotation of the foot dependent upon rotation out of the thigh and bending of the lower end of the tibia in, with a turning in of the foot dependent upon no structural changes whatever.

With all the precautions possible, I have tabulated the following observations and have arranged the several specimens in groups according to age and length. These observations are upon sixty-nine of the best preserved of one hundred and sixty-one fœtuses. The age and length have not a truly constant ratio.

GROUP I.

In twelve fœtuses of an average age of six weeks, and an average length of .013 meter, I find that the extensor surface of the thighs looks outward and dorsally, that the lower extremities are at right angles with the long body axis, and in several cases are somewhat conformed to the body curve. There is in all the specimens of the age of about six weeks, a uniformity and a constancy in the position of the lower limbs.

GROUP II.

In thirty fœtuses of an average age of from two to three months, and an average length of .058 meter, sixteen cases present no varus whatever, and in fourteen of these sixteen cases a slight outward rotation of the thighs exists. Here, then, are illustrations of rotation outward with absence of varus.

In fourteen of the thirty cases a varus or equino-varus exists of either one or both feet, with a slight rotation outward of the thighs. Here the relation presented by Berg is preserved to a certain degree. It is a noticeable and interesting fact that the fourteen cases presenting varus average younger than the sixteen cases with no varus. This difference in age is a slight one.

GROUP III.

In a group of twenty fœtuses of average age of from four to five months, and of average length of .131 meter, there is no varus or equino-varus in seventeen cases, and of these, four show no rotation outward of the thigh and thirteen do show rotation outward of the thigh. Of the remaining three cases, two show a slight varus of one foot, that is, one, of the right foot with no outward rotation of right thigh but with a slight outward rotation of the left thigh; the other, of the right foot with no rotation outward of either thigh. The third case presents slight varus of both feet, with outward rotation of both thighs. We find, therefore, in fœtuses of approximately the same age: (1) Rotation of the thighs outward, with and without varus or equino-varus. (2) Non-rotation of the thighs outward, with and without varus or equino-varus.

GROUP IV.

In a group of seven fœtuses of average age of six or seven months, and of an average length of .155 meter, rotation outward is present in four cases to a slight extent. It is absent in three cases. Varus is present in the right foot of one in which there is no rotation outward. Varus is present in the left foot of a second, in which the left thigh is slightly rotated out. In the other five cases the feet are straight, rotation outward is seen in three of the five.

My conclusions from the above observations are as follows:

(1) The position of varus or equino-varus with rotation out of the thigh, is present in all twelve fœtuses of average age of six weeks; and it is highly probable that up to six weeks the position of the fœtal lower extremity is constant and uniform.

(2) For the same age beyond six weeks the position of the feet is not constant.

(3) For the same age beyond six weeks the degree of rotation of the thighs inward is not constant.

(4) Rotation of the thighs outward is a quite constant phenomenon, occurring in fifty-one of sixty-nine cases in both legs, and of the remaining eighteen cases, eight rotated out one thigh, and not the other, and ten rotated out neither thigh.

(5) The cases showing no rotation were, as a rule, older than the cases presenting outward rotation.

(6) There is probably no necessary connection after the sixth week of fœtal life between the age of the fœtus, the rotation of the thighs, and the position of the feet.

(7) Most, although not all, of the varus feet, were found among fœtuses of from sixty to ninety days old.

(8) In group II, all the feet are varus; in group III, less than half of the feet are varus; in group IV, three of the twenty cases are varus; in group V, a single foot in two cases is varus.

As the age increases the varosity, if I may be allowed the expression, decreases.

In support of the theory of retarded rotation, Berg makes a summary of five points. Only two of these concern us now. He says first, "We have the fact that the leg is rotated outward in all cases born with this deformity and the tibia is bent inward at its lower part." I have carefully examined all the cases of varus or equino-varus occurring in the new-born that have been brought for some time to the surgical clinic of the Children's Hospital, Boston, Mass., and have been unable to find in all cases, outward rotation of the thighs. These observations, when any doubt existed, and at all times, have been corroborated by the attending surgeons in the out-patient department of the hospital.

He says second, "We have the fact that during embryonic life a similar deformity is present as long as the leg has not yet completed its inward rotation." A glance at the remarks upon Groups I, II, III, IV, will conclusively prove that this statement, upon which the theory so greatly depends, is not a fair one.

I might state here that I have observed that cases do occur in which children are born with the thighs rotated outward but with no other deformity.

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THE CLIMATE AND HEALTH OF SAVANNAH.

BY D. F. LINCOLN, M.D.

SAVANNAH is on the west bank of the river of the same name, about ten miles from its mouth. It is situated in a flat, sandy plain, originally covered with a growth of pines. The trees have been cleared for a mile or two from the city in each direction, leaving open fields, dotted here and there with huts, where "truck" is raised for the early New York market. The bluff on which the city stands is some thirty feet above the tide of the river, but slopes directly on both sides to low, mucky grounds, formerly cultivated in rice, and pestilential, but now drained, tilled, and grazed. This improvement has been of great benefit to the health of the place.

The streets are mostly of sand, with paved sidewalks. Pedestrianism is not altogether attractive over such ground, or across the blank waste which immediately surrounds the city; nor is that form of exercise favored by the influences of the climate during the greater part of the year. A good horse is the best means for visiting the points of rural interest which lie among the woods, and on the banks of various tide-ways, at distances of two or more miles from town. Shooting is also very good sport, in the winter, among the low grounds all about. Savannah has a capacity for pleasing the Northern visitor greater than it is generally credited with. The obstacle to its enjoyment lies in the preoccupation of the traveller's mind with Florida. Unfortunately, it must also be added that the appliances for comfort necessary at Savannah, as well as in Boston, are not provided by the existing hotels, which may be briefly said to be rather less expensive than New York houses, but dear at the price. Florida has great advantages in that point, but Florida has been colonized from the North, and Savannah has not. It is all the more interesting to see a genuine, thoroughly Southern city, and Savannah offers one of the best specimens of its class.

A person flitting from the North, and spending a day or two on the way at Savannah, needs no special advice from me. For one contemplating several months' residence, it may not be out of place to be told that, on arrival at the end of October, one must not expect to be struck with the beauty of Nature in her mood of fatigue after the heats of six months, but must reserve a decided opinion until he has seen the real beauties of spring, opening towards the end of February, and growing steadily more remarkable for six or eight weeks, till the city is embowered in the foliage of trees and the blossoms of flowers. When it has grown most perfectly beautiful, you begin to think of going North, unless you are very fond of heat. Whatever else they may lack, the people of Savannah have a *real* spring, with many an hour of delicious, genial, soothing, sunshiny weather.

The entire season, for Northerners who wish to escape climatic dangers, is comprised between November 1st and June 1st. Summer weather, as understood at the North, is fully developed before May; it was splendid July weather, last April, in the third week.

For the purpose of giving distinctness to statements, I shall assume that the reader is chiefly interested, as regards climate, in a comparison between Savannah and New York or Boston. The mean temperature of the places may be compared in the following table:[1]

	Spring.	Summer.	Autumn.	Winter.
Boston	43.7°	69.3°	49.7°	28.3°
New York . . .	46.4	71.2	53.9	30.5
Savannah . . .	65.8	82.1	68.1	55.
Difference, B. and S.	22.1	12.8	18.4	26.7

The temperature of the year, as a whole (based on twelve years' observation, ending 1883), is, for Boston, 48.3°; for New York, 51.2°; and for Savannah, 66.9°, making Savannah 18.6° warmer than Boston on an average for the year.

It is well known that the measured temperature in Northern cities, in the hottest weather, is often nearly as high as in the South. The maxima observed (down to 1883) by the Signal Service were, in Boston: July, 101°; August, 96.8°; New York: July, 99; August, 96°; Savannah: July, 105°; August, 100°. But, in Savannah, the heat is much more equably maintained; it gives one no relief for several months. With us, on the contrary, the three summer months are those which present the greatest mean daily range.

Winter at Savannah causes a suspension of vegetation. The grass turns brown, the fields look bleak, the oaks, maples, cypresses, and other deciduous trees shed their foliage; even the evergreens are below their normal standard of color. Water rarely freezes. One may spend several winters without seeing a particle of snow. The severe cold of January, 1886, when ice formed several inches thick, and people skated on the canal, was very exceptional. The lowest temperature observed by the Signal Service is 16°.

The mere absence of severe cold is not so distinct a gain as it might seem, when considered by itself. But when we consider how large a part of our discomfort arises from sudden changes of weather, combined with wintry temperature, we may see wherein Savannah has the advantage. Both places suffer from changes of temperature in winter. The mean daily range is 17.6° for Boston, 16.8° for Savannah; but this change does not there involve our frightful alternations of snow and slush, ice and thaw. As soon, almost, as rain is over, the streets are dry enough for thick shoes. A transient guest *may* encounter a week or ten days of rainy weather; but, as a rule, the number of bad days is not great, and, when the rain does stop, the sun comes out bright at once. A stove in the hall is

[1] For the year 1882. Report of Chief Signal Officer, 1884.

as necessary there as here; but they have not found that out.

All our Atlantic climates are variable in winter and spring, and that of Savannah forms no exception, though the variations are less, and less frequent, than they are here. Most of the "cold waves" reach that part of the country, and affect the weather in a marked way. During the past winter, which was not an exceptional one, the temperature at Savannah rose and fell, with an approach to a weekly cycle; a day or two of warmish weather, calling for open windows or even doors, would be succeeded by a continued fall of the thermometer for two or three days, after which warmer weather would return. Many of the changes to cold come more suddenly than this. I have often seen it bright, warm, even sultry, all day, until in the middle of the afternoon the sky becomes threatening and squally, the wind changes rapidly to the west and north-west, clouds of dust arise, and the temperature falls 20° or 30° before nine o'clock. The signal officer told me he had observed one fall (on February 4, 1887) of 20° in *five minutes* under similar circumstances. These changes are predicted by the weather signals, and delicate persons ought not to go out while they are threatened.

Clothing should consist of thick autumn outer garments with medium or thick flannels. The inhabitants retain their winter clothing, in spite of its discomforts, until the first of May or even June, when the weather becomes free from these great fluctuations and takes the uniform heat characteristic of their summer. Strangers are warned that by making premature changes they run a risk of pneumonia.

The vicinity of the ocean and the river give a character of dampness to the air in winter. I have repeatedly sniffed the genuine flavor of a Massachusetts Bay northeaster.

There are rainy spells here, as elsewhere, and in winter there may be even a rainy week or ten days. One can often see the dampness in the form of a light fog, before breakfast; a heavy dew is another frequent occurrence. The general impression conveyed to the feeling is one of relaxation, rather than of bracing dryness. A man of great experience in the matter of horses informed me that these animals, when brought down from the upper country, were quite subject to "pneumonia," which may mean, however, bronchitis, until they get acclimated to the place.

It would be rash to extend a general invitation to bronchial patients to visit Savannah. That benefit may be gained, is true; it may be ascribed to the greater freedom of exercise in the open air (on horseback), to the frequency of open windows, and to the relief from the tax on vitality which low temperatures make. Savannah is not, however, a place where one can sit out of doors in the winter and enjoy it. One serious drawback must be mentioned; there are not a few days when the dust is a great annoyance. The streets are not generally paved or watered, and the result is equally discouraging to pedestrians and those in carriages; on horseback one is just enough lifted to be above the clouds.

One impression was strongly received during the six months of my residence. The "sunny south" is rightly so called. The sky is rather more brilliant than our clear skies; the lustre of the stars is more striking, and there is a great deal of sunshine. The sunny side of the house is the one recommended by experienced persons for residence, whether in winter or summer. In the latter season it is said that the prevalence of south winds makes that exposure the more agreeable in point of temperature.

The water-supply for the city is pumped from the river at a point two miles above, but owing to the rapid tide which sweeps past that point, it might nearly as well be below the city, for a part of the time at least. The water is brown, and after heavy rains deposits a sediment. It is said that seamen consider it a very desirable water, as it does not spoil in the casks. In a few cases it seems to cause diarrhœa, but that is not a characteristic effect. At the present time operations are going on to supply the pumps with artesian water of good quality.

Large use is still made of water from town pumps, which cannot be considered as fit to drink. The introduction of sewers has not put an end to the use of numerous privies, which continue to pollute the soil. Typhoid fever, by last year's report, was not excessively prevalent; 22 deaths, or about 1 in 2000 population, which closely approaches the rates in Massachusetts for 1883 and 1884. It is true that of the number of 95 deaths from "undefined" causation, a number may have occurred from typhoid.

The general rate of mortality at Savannah among whites is not such as to excite fear of special danger to health among visitors. Too much care cannot be given, however, to provision for comfort, if an invalid is in question. A delicate person, transferred from a well-warmed Northern home to the comparatively comfortless arrangements found in a Savannah hotel, or in many boarding-houses, incurs a certain risk to be considered and provided against.

PRINCIPAL DISEASES.

The table which is here given is selected and calculated from the "Tabulated Mortuary Record of the City of Savannah from January 1, 1854 to December 31, 1869," by Dr. W. Duncan; and from Table X, of the Massachusetts Forty-fourth Registration Report, giving data for forty-four years, eight months, ending December 31, 1885.

NUMBER OF DEATHS IN EVERY 1,000, FROM CERTAIN CAUSES.

	Mass. 44 years.	Savannah 16 years.	
		White.	Colored.
Yellow Fever	....	88	3
Malarial Fever	.9	123	62
Typhoid Fever	41.5	39	43
Small Pox	5.0	3	1.6
Dysentery	29 4	32	29
Diarrhœa	12.4	37	43
Cholera Infantum	48.1	11	9
Enteritis	11.6	18	17
Phthisis	181.6	79	75
Dropsy	16.4	21	49
Cancer	17.7	5	8
Paralysis and Apoplexy	35.2	12	15
Cephalitis	22.0	35	28
Convulsions	47.2	95	105
Other Nervous and Brain disorders	20.6	14	12
Trismus Nascentium	...	18	36
Teething	9.7	24	29
Pneumonia	63.5	52	83
Miasmatic Diseases	255.4	419	292
Diathetic Diseases	42.9	28	61
Tuberculous Diseases	215 1	102	97
Nervous Diseases	96.0	154	157
Diseases of Circulation	39.2	11	16
Diseases of Respiration	83.9	73	117
Diseases of Digestion	39.6	49	48

Dr. Duncan's figures include the period of the

Civil War, which has doubtless caused some loss of accuracy; for example, there are 408 cases of death from "cause undefined" for 1865. In estimating rates I have subtracted the 776 "undefined" from the total of 9,445, leaving 8,669 as a basis for percentages; the same was done in the Massachusetts report.

In drawing conclusions from this table, we may, it is hoped, omit yellow fever from our calculations for the future. With this exception, we find that the two leading causes of mortality among whites in Savannah have been *malarial fevers* (1,071 deaths), and *convulsions* (805 deaths). This result is so widely different from that in Massachusetts, that we may set these two diseases aside, before trying to compare the two districts in other respects. (It is proper here to notice the prevalence of the convulsive affection *trismus nascentium* at Savannah, whereas it is not separately named in the Massachusetts report).

After the above, follow two diseases which represent the two leading causes of death among whites in both sections; *consumption* and *pneumonia*. The comparatively small amount of consumptive disease in Savannah is one of the most prominent facts in the Table. The addition of the following eight, completes a list of the ten most fatal diseases at Savannah; namely, *typhoid fever, cephalitis, diarrhœa, dysentery, teething, dropsy, enteritis*, and *trismus nascentium*. With this list may be compared the following eight in Massachusetts: *cholera infantum, typhoid fever, heart diseases, scarlatina, dysentery, diphtheria, cephalitis*, and *paralysis*.

In reckoning mortality from typhoid, I have added in a few cases of typhus and continued fever, to bring the Savannah data parallel with those of Massachusetts. Similarly, I have added together meningitis, eucephalitis, and congestion, to procure data corresponding to the Massachusetts "cephalitis."

On the whole, the Southern city presents a very high mortality from nervous diseases and miasmatic fevers, and a rather high rate from digestive disorders: the Northern State suffers greatly from tuberculosis, has rather more local respiratory disease, and is distinctively marked by a relative excess of circulatory and diathetic diseases (except dropsy). The Northern type of disease perhaps tends to chronicity and slow degeneration: while the Southern is more marked by acuteness, and febrile action. Phthisis, cancer, paralysis, and apoplexy, exhibit certain common points of the former type. Bright's disease, however, is named as causing a good many (14) deaths in the year 1886, at Savannah.

Typhoid fever has already been mentioned. There exists in Savannah a very common fever, of mild type, rarely causing death, to which the name of "continued fever" is applied. It is apparently a typhoid, without the specific traits of the latter. No autopsies can be cited. Dr. Duncan makes the following statements to me: "From a long experience with this fever, I am satisfied that it is *not* a true typhoid, though it belongs to that class of fevers. In the continued fever there is no diarrhœa or dysentery, nor tympanites, but on the contrary the bowels are generally constipated; there are no rose-colored spots, and the tongue may be, and often is, perfectly clean; there is no subsultus; death, when it occurs, is generally from a relapse and *from exhaustion*, never hæmorrhage of any kind; and there is no delirium until near the end. . . . The continued fever generally runs its course in about twenty-one days, and does not leave the subject so prostrated as typhoid. . . . In my experience, any error of diet will bring on a return of the fever, and it is very important to impress on the attendant the utmost caution. I have seen quite a number of cases where the only symptom was the regular rise and fall of the fever for three weeks and sometimes even more, and not another bad symptom of any kind. In my judgment it is closely allied to typhoid, and may arise most probably from some defect in sewers, etc. I think it has been traced to that source in several cases this season. It is clearly not a malarial fever, and quinine will not influence it as it will a true malarial fever."

In the report of the City Physician, Dr. McDougall, for 1886, the total number of deaths among whites, is given at 452. All of the twelve causes first enumerated are prominent except dysentery, and of course yellow fever. Heart disease, marasmus, measles, and paralysis, are also prominent. There are thirteen "undefined." The most interesting fact in the Table is the diminished number of deaths from malarial fevers.

Under the heads of congestive (16), remittent (16), and typho-malarial (4), the total mortality from malarial fevers was thirty-six, making eight per cent. of the whole number of deaths. This is a reduction of over one-third from the former average, and doubtless indicates a permanent improvement.

It is important to know whether the climate of Savannah is unfavorable to the development of consumption. It does not possess the advantages of the best typical climates, height and dryness. But the statistics seem to show that the native inhabitants, (including under this term the whites born in Georgia, the Carolinas, and Florida), are by no means largely subject to this disease. This class, in fact, furnishes only 232 deaths out of 692 that occurred in 1854 to 1869. The following table is abridged from Duncan:

DEATHS AMONG WHITES FROM CONSUMPTION, 1854-69, BY NATIONALITIES.

Birthplace.	
Georgia	178
The Carolinas and Florida	54
Mississippi and Tennessee	2
Distant States (Me., N. H., Vt., Mass., Conn., N. Y., N. J., Penn., Mo., O., Ky., Md., Va.), and Provinces (Can., N. B., N. S.)	81
Ireland	264
England and Scotland	27
Germany	31
Other Countries	24
Unknown	31
Total	692

The large mortality among native Irish cannot be accounted for by unfavorable surroundings, for they are fairly prosperous in Savannah. They can hardly, at present, exceed one-fourth of the white population, while their rates from consumption are about thirty-eight per cent. of the whole number dying of that disease.

MORTALITY AMONG THE COLORED POPULATION.

The blacks and mixed population form a little more than two-fifths (⅔) of the inhabitants of Savannah — 19,111 out of 45,786, according to the census of 1885–86. The mortality among them was, in 1886, 49 per mille; among the whites, 17 per mille. A similar high rate is shown in the returns from elsewhere; for example, in 1884, among a combined population in Southern cities of 656,603, the rate of whites was

21.5, for the colored 36.6.[2] The rates fluctuate a good deal, but this may be corrected by comparing groups of years. For example, during the eight years, 1854–61, the yearly colored mortality in Savannah ranged from 24.8 to 34.3, which is better than that of the whites, which varied from 29 to 97.9. If we take the ten years, 1877–86, for comparison, we find a complete reversal of things, for, during these years, the colored rates ranged from 35.4 to 58.8, and those of the whites from 13.7 to 29.1.

The improved drainage and water-supply of the city have doubtless contributed to the present low rate among the whites. Why have they not benefited the colored people?

Among the facts which appear unfavorable to the blacks, we can point to the excessive number of deaths from lung diseases, the large mortality among children, and the evidence of great neglect or poverty, as characteristic of their lives.

Pneumonia, bronchitis, catarrh, pleurisy, hydrothorax, asthma, and consumption form a group which, in Dr. Duncan's statistics, are seen to have been very fatal to the colored race, even in the times before the war. At the present time, the case is much worse. The following are the data for 1886:

	Deaths, Actual.		Deaths which should have occurred among colored population, based on white rates.
	Whites.	Colored.	
Consumption	49	107	32
Pneumonia	16	74	10
Congestion of the Lungs	13	13	9
Bronchitis	4	22	2
	82	216	53

A comparison of the second with the third column of this table shows that the colored race suffers four times as much as the whites from the principal lung diseases.

During 1886, the colored people suffered much from malarial fevers and diarrhœa. Among the children, teething and trismus were very fatal. The deaths under the age of two years numbered 35 per cent. of all deaths; among the whites, 30 per cent. It should be added that there were 19 still-births among the whites, and 144 among the colored, not included in the number of deaths. This indicates a state of morals which one might expect to find associated with physical misery, as, in fact, it is.

Another significant fact is the number of colored people (244) that died in 1886 without having a physician in attendance, the corresponding number of whites being only 14. Whether this be due to poverty, ignorance, superstition, or carelessness, it certainly suggests a wretched and helpless condition of life. Special liability to lung diseases seems to exist among them, but this does not fully account for their enormous death-rate.

In preparing the statistics for this paper, I have used those of the white race for the purpose of comparison with those of Massachusetts. If I were comparing them with those of a great metropolitan city, the propriety of thus excluding the colored race would be doubtful, for New York possesses a large class of poor, whose manner of living places them on a parallel with the negroes, and who equally deserve to be excluded from statistics representing the self-helping classes of the population. In both cases, there exists what Dr. McDougall (of Savannah) calls "an incubus population," incapable of properly caring for themselves, and constituting a grave responsibility for their abler neighbors.

Something, in conclusion, may now be said in the way of general advice to those contemplating a journey. It is always well to bear in mind, while planning the trip, that there is a great change to be undergone. Leaving New York or Boston in October or early November, we give up a bracing, brilliant climate for a moist, relaxing one, and must expect rather a depression of energy. Going in mid-winter, we can but be thankful for an escape from many trials, and for a sight of even a moderate amount of verdure. Going in February, we may expect a new experience — the joys of existence in spring-time — but, in returning, it may be well to anticipate something of a shock. A passenger leaving Savannah near the end of April, and sailing direct for Boston, may find that he has leaped three months back towards winter — a change which, for delicate persons, must be broken by repeated rests at such intervening stations as Charleston, Norfolk, and Bethlehem. The old rule was "to follow the strawberries North."

[2] Sanitary Engineer, February 12, 1885.

RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M.D.

THE LENGTH OF THE FINGERS AND THE MOVEMENTS OF THE WRIST.

PROFESSOR BRAUNE and Dr. Fischer have written an admirable paper on the mechanics of the human hand, which is shortly to appear in the Proceedings of the Royal Society of Sciences of Saxony. In the meantime, Professor Braune has given an abstract of the paper before the Anatomical Society of Germany,[1] and the part on the length of the fingers has appeared elsewhere.[2] The results of the measurements of the fingers are not in accord with those hitherto accepted, made, we believe, by measurements from the living or undissected hand. Thus Mantegazza found, in seven hundred and twelve cases, that the ring finger was longer than the index in five hundred and eighty-nine, and shorter in ninety-one.

Braune and Fischer point out some of the causes of fallacies in measurements of the fingers on the living. In the adult, the phalanges of the four fingers are not in line with their metacarpals, but are bent towards the ulnar side. The forefinger can be brought towards the thumb only enough to bring it into line. If we place it thus, and bring the other fingers against it, the apparent relative length of the fingers is strikingly changed. In these studies, the length of the metacarpal bone is measured from the middle of the base. The observations were made on forty ligamentous preparations. To avoid error from abduction or adduction of the fingers, the relative lengths of the index and ring fingers was taken by connecting by a straight line the middle points of the bases of the metacarpals, and measuring the fingers along straight

[1] Anatomischer Anzeiger, 1887, No. 12.
[2] Archiv. für Anatomie und Entwickelungsgeschichte, 1887.

lines drawn perpendicularly to this one. In twenty-six cases, the system of the index (all included) was longer than that of the ring finger; in ten cases the ring finger was longer, and in four they were equal. The order of the metacarpal bones, arranged according to length, is the second, third, fourth, fifth, first. Twice the third surpassed the second by trifling quantities, and three times they were equal. The systems of the phalanges of the several fingers are as follows, in the order of length: third, fourth, second, fifth, first, which shows that the greater length of the index, compared to the ring finger, is due to the metacarpal. The relative length of the proximal and middle phalanges respectively, is, with a few exceptions, the same as that of the entire phalangeal system. There are, moreover, measurements showing the part each bone contributes to the length of the finger, which is called 100.

	Metacarpus.	1st Phalanx.	2d Phalanx.	3d Phalanx
Thumb,	47	31	22	
Index,	44	27	17	12
Middle,	40	29	19	12
Ring,	38	29	20	13
Fifth,	42	27	16	15

This does not quite correspond to Langer's formula for the middle finger, in which the relative lengths of the bones are represented by eight, five, three, two, the metacarpal being equal to the first and second phalanges, and the first phalanx to the other two. Langer, however, measured the distance between the several axes of rotation of the joints.

In studying the movements of the wrist, the entire motion was first measured, and then an intermediate or neutral plane found to serve for a starting point. The motions of every point of bone firmly connected with the joints was found to be in concentric sections of a sphere, the centre of which is in the head of the *os magnum*.

It is well known that flexion and extension of the wrist occur in two joints, the first between the radius and the carpus, and the second between the two rows of carpal bones, but authorities differ as to the share of each joint. Braune and Fischer find that the radio-carpal joint is much more concerned in flexion than in extension, and somewhat more in bending the hand to the ulnar side than to the radial. In the intercarpal joint, extension was about three times as free as flexion and movement towards the radial side; rather greater than towards the ulna. They found, further, that if the three proximal carpal bones are fastened immovably together, so as to form but one, motion, especially extension, is much diminished in the intercarpal joint. Thus the motions of the hand take place around the head of the *os magnum*, which is embraced by two concentric sockets, each made of movable pieces, for not only is there motion between the separate bones of the first row, but the relations of the lower end of the radius, the triangular cartilage, and the end of the ulna change also. This is due to looseness at the elbow, allowing some change of relative position between the bones of the forearm.

THE MECHANICS OF CERTAIN MOVEMENTS OF THE FINGERS.

It is well known that if the middle phalanx of one finger be flexed on the first (it does not matter whether the latter be flexed on the metacarpal or not), the last phalanx is powerless. It may be bent or extended by the other hand, but cannot be moved in obedience to the will. Mr. Tuffier[3] has written a paper on this, which is interesting in several respects, though it does not contain much that is very new. A very important point is brought up incidentally; namely, the insertion of the common extensor of the fingers. In most works, it is described as inserted into the second and third phalanges. No notice is taken of its insertion into the first phalanx, though it is a very important point, and has been correctly described by Duchenne. Tuffier points out that, if the tendon be cut at the middle of the metacarpal bone, reflected and dissected from below, the insertion into the base of the first phalanx is evident. The writer of this report has been in the habit of demonstrating the point as follows: He divides the tendon at the middle of the first phalanx, cuts the lateral expansions, and reminds the class that, if the usual description be correct, the tendon should now be free, or held only by areolar tissue. He then shows that it can be torn loose from the first phalanx only by great violence. Tuffier points out that it is inserted, also, into the distal half of the capsule, so as to pull it out of the way of the joint. The continuation of the tendon is joined by fibres from the lumbricales and interossei, some of which arch over the dorsum of the first phalanx, while others join the lateral prolongations of the tendon which go to the last phalanx. When the second phalanx is flexed on the first, the expansion is drawn forward, the middle tendon to the base of the second phalanx is tense, while the lateral parts of the tendons just mentioned tend to slip off to the sides of the end of the first phalanx, and become relaxed. Tuffier ascribes to the tension of the middle tendon a subordinate share in the production of the flaccidity of the last phalanx, and we must own that we are unable to follow him.

He is undoubtedly right, however, in ascribing the chief share to the relaxation of the tendons that run to the last phalanx. He confirms this by a very neat experiment. The second phalanx being flexed on the first, a pin is passed under the tendons at the end of the former, so as to hinder the relaxation of the lateral parts, and it is then shown that the last joint is no longer loose. The reason why it cannot be actively flexed is much more simple. This depends on the interlacement of fibres in the different divisions of the deep flexor. If all the fingers of one hand be put in the described position, the want of power of extension of the last phalanges persists, but they can be actively flexed. This power is wanting only when one finger is so placed.

THE PALMAR FASCIA.[4]

Dr. Max Grapow has written a very detailed description of the palmar fascia, which is intended to determine with precision several smaller points. We shall allude merely to the deductions as to the uses of the fascia. First, it secures the arching of the skeleton of the hand, and resists its flattening under pressure. Second, it has an hydraulic action, and by its alternate stretching and relaxation drives the venous blood and lymph towards the heart. Third, it renders the grasp of the hand surer by its intimate adhesion to the skin. Otherwise the skin would fall away from the hand, as in the case with even the closest fitting glove.

[3] Archives Générales de Médicine, Mai, 1887.
[4] Archiv. für Anat. und Entwicklugsehte, 1887.

THE SHEATHS OF THE TENDONS OF THE HAND AND WRIST.

This important subject has of late received much attention. Dr. Larger,[5] a few years ago described a new sheath connected with that of the tendons of the radial extensors. This new sheath is above the tendons at the place where they are crossed by the tendons of the extensor ossis metacarpi pollices and that of the extensor primi internodii; its describer calls it "la gaine antibrachiale."

Debièrre and Rochet[6] were induced by this paper to investigate the subject again. Their results by no means agree with those of Larger. Beneath the tendons of the extensors of the metacarpal bone and of the first phalanx of the thumb they found a serous bursa which Larger had mentioned as "accidental and professional," resulting, according to him, from twisting the hand on the arm. Debièrre and Rochet, however, found it in every one of forty extremities on the left as well as on the right, in women as well as in men, and in children as well as in adults. They accordingly considered it constant. This bursa having been opened, the radial extensors are seen beneath its deep wall, and the *gaine antibrachiale* should be found between them and it. These observers, however, never found it at all, and set it down as an artificial production. They find the synovial sheath of the two radial extensors, usually single but sometimes double. In the former case it always communicates with that of the extensor secundi internodii policis. When it is double, the sheath for the longer radial extensor is quite closed, but that of the shorter one communicates with the extensor of the second phalanx of the thumb. It would appear from this that there is a discrepancy between these authors and Gruber of St. Petersburg, who found that the sheath of the latter tendon communicated with that of the radials 149 times in 290 cases.

A very interesting and even more important paper is that by Dr. Alfons von Rosthorn[7] on the "Synovial Sheaths of the Flexor Tendons in the Palm of the Hand and in the Fingers." If he is right, and we must say that his paper is very convincing, the descriptions in our text-books are wrong in important respects. These, however, are by no means the same. For instance, in the tenth edition of "Gray," we find the following statement: "A synovial sheath invests the tendons as they pass beneath the annular ligaments; a prolongation from which surrounds each tendon as it passes along the phalanges." This, however, may be dismissed at once as behind the times. "Quain's Anatomy," ninth edition, is by no means up to its average in this matter. "The tendons of both the superficial and deep flexors, as well as the median nerve, are surrounded beneath the annular ligament by a large and loose synovial bursa, which extends upwards to the level of the radio-carpal articulation, and downwards to a little beyond the bases of the metacarpal bones, being prolonged further on the little finger than on the others. According to Max Schüller, this bursa is double, the sheath investing the two ulnar fingers being separated by a longitudinal partition from that of the index and middle finger tendons. The latter division communicates opposite the upper border of the annular ligament, by a small aperture, with the synovial sheath of the flexor longus pollicis tendon."

Tillaux's description is the one generally accepted. There are two sacs, one for the tendon of the flexor of the thumb which extends from the wrist to its insertion, the other encloses the flexors of all the other fingers extending to the end of the little finger, but stopping short of the other fingers, each of which has a separate sheath.

Von Rosthorn describes two chief sacs which are separated at the upper end by the median nerve. The radial one corresponds to Tillaux's description, but the ulnar one differs from it in essential points. It encloses only the tendons of the fourth and fifth fingers in the palm of the hand, and is usually continuous with the sheath of the tendons in the little finger, rarely with that of the ring finger. The second, third and usually the fourth fingers have separate sheaths opposite the phalanges, and the tendons of the index and middle finger have no synovial sheath in the palm. Another important fact which he has shown, is that in the young child, each of the five fingers has a separate synovial sheath of its own, and that the almost constant junction of that of the thumb with the radial sac and the usual junction of that of the little finger with the ulnar one are the results of secondary changes, not the primitive condition. Occasionally a third carpal sac is found between the other two. The more common arrangement of this additional sac is for it to be wedge-shaped with the base above and the point separating the other two for a short distance. It contains in this case no tendon. More rarely it completely separates the other two sacs and contains the tendon of the deep flexor of the index. The superficial tendons of the index and middle fingers may as an exception have independent sheaths of their own in the palm of the hand communicating neither with one another, nor with the carpal sacs, nor the phalangeal sheaths. That of the index is the more common, and von Rosthorn found it particularly well developed in the hands of robust workmen. The superficial tendons of the fourth and fifth fingers have frequently imperfect synovial sheaths in the palm of the hand inside the carpal synovial sac and communicating with it.

This writer gives much attention to the curious question of how these tendons, when inclosed in synovial sheaths, receive their vascular and nervous supplies. He finds an arrangement of synovial folds perfectly analogous to that of the mesentery. Some tendons, like that of the thumb, have a true fold, others project partly into the synovial cavity after the fashion of the descending colon. Sometimes, however, the long fold is interrupted and then the comparison no longer holds. The vessels, of course, reach the tendon on the reverse side of the synovial membrane. There are many points of detail for which we must refer the reader to the original.

A word on the methods employed may not be out of place. We can bear witness to the difficulty of making trustworthy injections of synovial sheaths; that is, such as shall exclude all suspicion of extravasations. Debièrre and Rochet often inflated the sheaths with a subcutaneous syringe which makes so small a hole that the air does not escape when the tube is withdrawn. This is a useful method for study, but one which will not give permanent results. They also used injections of mercury which seems to us one of the worst possible masses for the purpose.

[5] Revue de Chirurgie, 1882.
[6] Archives de Physiologie. Série III. Tome 3, 1887.
[7] Archiv. für Klinische Chirurgie. Band, xxxiv, 1887.

There are others that run as finely, are easier to manage and more durable when made. Von Rosthorn strongly recommends Teichmann's mass, which we believe is essentially sealing-wax dissolved in ether or other evaporating fluid. Some of his illustrations represent really beautiful injections. When the sheath is injected from the end of the finger there is often much difficulty in persuading the mass to run through the narrow passage, and it is useful to move the finger and rub it gently towards the palm. In the fingers whose sheaths do not join the carpal sacs, we gather that it is well to make a counter-opening for the escape of the synovia. Another method that gives less striking but valuable results is to distend the sheaths with tallow which is to be removed when they are hardened. Windows can then be cut where it is desired.

THE RELATION OF THE THYROID TO THE CEREBRAL CIRCULATION.

Professor Waldeyer[8] made some remarks on this point before the Berlin Medical Society, which though not wholly new, deserve mention. He gives Staël credit for having pointed out relations between the superior thyroid artery and the internal carotid. It is well known that the latter enters the skull through a canal that cannot be distended, however violent the heart's action may be, and also that the artery is very tortuous, thereby protecting the brain. The effect of both these arrangements is to make it probable that there is occasionally a certain "backing up" of the blood in the internal carotid, and this artery very frequently has a dilatation just at its origin, which, under such circumstances, would come into play. Staël has shown that when the superior thyroid (the first branch of the external carotid) is small, this bulb is large, and when it is large the bulb is wanting. It is therefore probable that the thyroid acts as a reservoir to receive an excess of blood passing through the carotids and subclavians. Waldeyer points out that precisely the same relations exist between the vertebral and the inferior thyroid arteries. This strikes us as rather a strong statement, but an analogy is evident. Comparative anatomy seems to support the theory of a relation between the circulation of the brain and that of the thyroid. Only in the apes do the vertebrals nearly equal the carotids. In lower mammals the vertebrals become less important and the carotids alone supply the brain. In the ox and the horse the occipital artery takes a part in the cerebral circulation. Now in the majority of mammals both the thyroid arteries come from the carotid; that is, from the artery supplying the brain. Waldeyer believes that he has found an arrangement in the thyroid, fitting it to receive sudden extra supplies of blood. The capillaries have numerous diverticula which allow them in case of need to expand into sponge-like structures.

THE PHARYNGEAL OPENING OF THE EUSTACHIAN TUBE.[9]

Casimir von Kostanecki has written an elaborate and very valuable paper on the eustachian tube and its relations, especially at the pharynx. Much of it is necessarily so technical that it seems unadvisable to attempt an abstract of it. One point to which we would call especial attention is the great individual variation of the arrangement of parts in the pharynx. The cartilage at the back of the opening presents many shapes and degrees of development, and on this, together with the thickness of the mucous membrane and the amount of adenoid tissue, depends the prominence of the fold between the orifice of the tube and the fossa of Rosenmüller. There are many admirable illustrations that show the various forms with a clearness that a description cannot have, and which will repay careful study. The author gives several measurements of the distance of the orifice of the tube from other points. First, the distance from the anterior nasal spine varies from 5.3 to 7.5 centimetres. Second, the distance from the level of the hard palate changes greatly during life. In the fœtus the opening is below the hard palate, at birth it is at about the same level, and in the adult on the average about one centimetre above it. Third, the average distance from the roof of the pharynx is about eleven or twelve millimetres. Naturally, the amount of adenoid tissue in the roof must affect this measurement considerably. Fourth, the distance from the posterior wall of the pharynx varies from the same cause. The mean is twelve millimetres. Fifth, the distance from the inferior turbinated bone is extremely variable, ranging in the adult from 4 to 14.5 millimetres. The cause of this is chiefly in the turbinate bone and in the thickness of its covering. Both the size and the shape of the opening are very uncertain.

THE STRUCTURE AND FUNCTION OF THE THYRO-ARYTENOID MUSCLE.

The relation of this muscle to the true vocal cord has not been determined beyond dispute. According to some, the muscle runs along the side of the fibrous tissue of the cord; according to others, the muscular fibres join the fibrous elements. Dr. Alexander Jacobson[10] has shown by series of horizontal and frontal microscopic sections that the latter view is the correct one, and that, accordingly, this muscle may separate the vocal cords, thus sharing with the posterior cricoarytenoid the honor of being an opener of the glottis.

THE MORPHOLOGY OF THE SACRAL PLEXUS IN MAN.

Dr. A. M. Paterson[11] has obtained some very interesting results by his dissections of this plexus. The generally received idea of its formation is that "the nerves unite without much interlacement into an upper large, and a lower small, cord or band." As a starting point, Dr. Paterson insists on the absence of connecting nerve-fibres between the two great branches of the great sciatic nerve, the external and internal popliteal nerves, which are entirely distinct. Sometimes, indeed, they arise independently from the plexus being separated by a part of the pyriformis muscle. Now the sacral plexus is formed by the anterior primary divisions of a part of the fourth and fifth lumbar nerves, the first three and a part of the fourth sacral nerves. The two popliteal nerves have a distinct and definite origin. The descending branch of the fourth lumbar nerve, and the following three nerves each and all divide into an anterior and a posterior branch. The anterior branches uniting form the internal popliteal, and the posterior branches the external popliteal. The former receives an additional branch from the third

[8] Deutsche Medizinal Zeitung, 1887, No. 22.
[9] Archiv. für Mikroskop. Anatomie. Bd. xxix.
[10] Archiv. für Mikroskop. Anatomie. Bd. xxix.
[11] Journal of Anatomy and Physiology, Vol. xxi, April, 1887.

lumbar. The small sciatic and the pudic nerve are associated at their origin. The two gluteal nerves each arise from posterior branches of the nerves that form the plexus and thus are associated with the external popliteal, while the nerves supplying the hamstrings are derived from the internal popliteal.

The two largest nerves of the lumbar plexus present striking analogies. The obturator and the anterior crural nerves are (as a rule) derived from the second, third, and fourth lumbar nerves, which divide into anterior and posterior parts. The anterior branches unite to form the obturator, and the posterior ones the anterior crural. A glance at the illustration in "Quain's Anatomy" will show this arrangement, though the fact that certain branches are anterior and others posterior is not mentioned in the text. Dr. Paterson goes on to show the areas of distribution of the nerves of the lower extremity. The front of the thigh, knee, leg and foot, together with the glutei and tensor vaginæ femoris are supplied by the anterior crural and the external popliteal nerves; that is to say, by those formed by the posterior branches, and these parts belong to the dorsal aspect of the bud, which in very early embryonic life is the precussor of the limb. The parts which come from its ventral surface, to wit, the back and inner side of the thigh, the back of the knee, leg, and the sole of the foot are supplied by the obturator and internal popliteal nerves which arise from the anterior or ventral branches.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

HERBERT L. BURRELL, M.D., SECRETARY, *pro tem.*

THE President, DR. O. F. WADSWORTH, in the Chair.

DR. J. C. WARREN reported a case of

GASTROSTOMY FOR THE RELIEF OF CANCER OF THE ŒSOPHAGUS.

A man, fifty-six years of age, presented himself at the Hospital, in the autumn of 1886. After attempts at keeping the stricture patent with probings had failed, the operation was performed January 1, 1887. The method of stitching the stomach to the abdominal wall was that known as House's method. The stomach was opened on the ninth day. The fistula, becoming enlarged, was kept closed by a valve-like apparatus, which effected the purpose tolerably well. The patient lived four months after the operation.

DR. M. H. RICHARDSON had seen Dr. Warren's case, and felt that operations of this description were only tentative, and were indicated where starvation is imminent. The indications are analogous to those for which we do colotomy for intestinal obstruction from malignant disease, or tracheotomy for malignant disease of the trachea or larynx. He believed that the double row of stitches took too long for their application, and considered that time was very important in all such operations. Dr Richardson considered the McCormick's method of the application of stitches all-sufficient. Regarding the immediate opening of the stomach, it had the advantage of at once relieving the urgency of the symptoms, and he did not consider that it was necessary to withdraw through a needle any of the contents of the stomach in order to verify that viscus.

DR. WARREN then showed a number of valve devices for gastric fistulæ. He then described an attempt that he had made to form, in animals, after the establishment of a gastric fistula, a valve composed of a fold of mucous membrane; this was simply a pleat in the mucous membrane that hung down valve-like, over the opening. This valve was in imitation of the one which existed in the celebrated case of Alexis St. Martin, and which added so much to St. Martin's comfort and welfare.

DR. F. S. WATSON then reported

A CASE OF PAPILLOMA OF THE BLADDER IN THE MALE, SUCCESSFULLY REMOVED BY THE SUPRA-PUBIC METHOD.[1]

and showed the patient.

DR. GANNETT showed, in a microscopic preparation, the bit of tissue, removed from the bladder at the first washing out, on which the diagnosis of papilloma was made.

It consisted of several papillæ, formed of delicate stems of connective-tissue supporting bloodvessels and covered by a many-layered epithelium. These papillæ were adherent to a common base made up of a vascular connective-tissue covered with epithelium. Finding such bits is absolutely diagnostic of papilloma of the bladder; and the surgeon may operate with the assurance of finding a new growth.

DR. CABOT said that he had examined Dr. Watson's patient some days before operation, and had distinctly felt an increased sense of resistance over the right portion of the fundus of the bladder, and was much surprised subsequently, at the operation, to see how small the tumor was, which had made itself thus manifest to the rectal touch.

In regard to the question of drainage or suture of the wound after operation, there are two important points to remember. First, that urine, even though foul, flowing freely over a wound, does little damage compared to that which comes about when urine perfectly fresh is forced into the tissues. So that although it is true that the supra-pubic drainage exposes the wound to contact with the urine, still this is by no means so dangerous a condition as we have when a bladder suture gives way and releases the urine into the previscal space more or less tightly closed by suture of the skin.

Much of the danger of this last accident is of course to be avoided by the introduction of drainage-tubes through the skin down to the proximity of the wound in the vesical wall.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, October 17, 1887.

DR. J. LEWIS SMITH, who was President of that Section, read a paper entitled,

A REVIEW OF SOME OF THE MORE IMPORTANT PAPERS PRESENTED TO THE SECTION OF CHILDREN'S DISEASES OF THE NINTH INTERNATIONAL MEDICAL CONGRESS.

The papers referred to were four in number, and

[1] See page 421 of this number of the Journal.

some of them, for lack of time, had been read only by title at the Congress. The first, on

PERTUSSIS AND ITS TREATMENT BY RESORCIN,

was by Prof. Moncorvo, of Brazil, who, Dr. Smith said, had made a special study of whooping-cough, and was now universally regarded as the highest living authority on that disease. The paper was written in French, and Dr. Smith proceeded to read a translation of its more important parts. In the year 1887, microscopic examination of the sputa of whooping-cough patients was made by a number of competent observers, and, believing in the bacterial origin of the disease, Moncorvo, himself, carried on an extended series of microscopical investigations; examining the sputa both of the catarrhal and the spasmodic stage, and of patients under treatment and not under treatment. Having given a *résumé* of these observations and their results, he stated that he was fully confirmed by them in the opinion that pertussis is due to the presence of specific micrococci. It was found that these were abundant during the spasmodic stage of the disease, and that they disappeared on the application of local disinfectants. Moreover, when the throats of guinea-pigs were swabbed with a solution containing these micrococci, a spasmodic cough was produced in the animals.

Moncorvo, therefore, concluded that pertussis was a disease having its seat in the entrance to the air passages, and the result of micrococci. In seeking for an appropriate remedy for local use he gave the preference to resorcin, among other antiseptics, on account of its solubility and lack of acidity; using it first in a 2 per cent. solution. In 1883 he published a first series of thirty cases treated with it, and in 1884 a second series of forty cases. In the meanwhile he had increased the strength of the solution used from 2 per cent. to 8 per cent. In 1885 he began to apply a 10 per cent. solution of hydrochlorate of cocaine before using the resorcin; and this he found lessened the intensity and frequency of the cough before the resorcin had had time to destroy the specific germs of the disease. This combined use of cocaine and resorcin was, in his opinion, the best treatment for whooping-cough now at our disposal, and if resorted to at the beginning, would sometimes reduce the length of the attack to four or five days. Of the efficacy of the treatment he had also had many assurances from medical men in various parts of the world. Any complications occurring in the course of an attack of pertussis were, of course, to be treated according to the nature of the trouble.

Having exhibited a number of plates showing the micrococci in the sputa which accompanied the paper, Dr. Smith went on to give an abstract of a paper written by Jules Simon, Physician to the Hospital for Sick Children, Paris, on

CEREBRAL IRRITATION OF YOUNG CHILDREN, AND PARTICULARLY OF INFANTS AT THE BREAST.

While many of the cases were doubtless due to alcoholism, insanity or syphilis in the parents, these would not explain them all. Having described the symptoms characterizing the condition, he stated that it might appear in the first month of life and usually terminated towards the age of five years in recovery, or in sclerosis or meningitis. Though, as had been said, some of the cases are due to hereditary influences, it was a fact that a large proportion of them resulted from the deplorable mismanagement of children at the breast that was unfortunately too common. It was not infrequent for nursing infants to be subjected to too much excitement, to noise, to bright lights, and other similar causes of nervous derangement, as well as to be given drinks such as tea, coffee or spirits, which had a similar effect.

The treatment for this form of cerebral irritation which Simon recommended was both hygienic and medicinal. It was necessary that a special and strict hygiene should be enforced, and all sources of excitement were to be suppressed. The child should be kept in the open air, and it was better, if possible, to remove it to the country, and preferably to the seashore. The remedy found most useful was bromide of potassium, which might be given in doses of from one and one-half to six grains to a child under one year, of nine grains to a child over one year, and of fifteen grains to a child over two years of age. Occasional intervals of three days' cessation of the drug were recommended. Laxatives were also often of service. In this way the predisposition to permanent neuroses could sometimes be checked, as there was always a condition of nervous irritability which preceded definite lesions.

In remarking upon this paper of Jules Simon, Dr. Smith said that it related to a matter of great importance, and one which he thought had not received sufficient attention from practitioners in general. Infants such as were described in the paper were often met with in American households, and the symptoms were apt to be attributed by their mothers and friends to dentition or intestinal worms. The causes of the cerebral irritation, however, were now always looked for elsewhere by the most intelligent physicians, and it was fully recognized by them that the vermifuge and the gum lancet, formerly so readily resorted to, were apt to do harm. There could be no doubt that in addition to hereditary influences the treatment the infant received had much to do with this nervous excitability, and that the habits of modern society interfered to no small extent with a well-regulated management of the nursery. While there were no structural lesions at first in this condition, it was important to remember that it might end in grave disease, such as sclerosis or meningitis; and this was a fact which ought to be known in every household.

In such cases he said he had, like Simon, been accustomed to use both hygienic measures and the bromide of potassium. It was beyond a question that the bromides were capable of relieving cerebral irritation when this was not due to any structural lesion. It was his practice to give two or three grains of the bromide of potassium to an infant of six months. In conclusion he said that he thought that Simon's paper was a very timely one, and would no doubt prove of much service in enabling practitioners to arrest the onset of irremediable cerebral disease.

The last two papers taken up by Dr. Smith were both by St. Germain, of Paris, on surgical subjects. The first related to

PRÆPUTIAL DILATATION.

Since circumcision was sometimes followed by serious accidents, among which profuse hæmorrhage and diphtheria were prominent, it was desirable that dilatation should be substituted for it in all cases, except

those in which the latter procedure was found to be impracticable. An examination of the statistics of the subject showed that this was the case in about one in every three hundred patients. The dilator that he employed was essentially the same as Nélaton's, except that there were two blades, instead of three, as in Nélaton's. Gradual and slow dilatation of the præputial orifice was practised, and afterwards, daily movement of the prepuce, alternately uncovering and covering the glans.

The other paper was on

IGNI-PUNCTURE OF THE TONSILS.

This, he believed, was an operation that was destined to replace tonsillotomy, when its merits were fully recognized by the profession. It was a perfectly safe procedure, and, therefore, free from the objections incident to tonsillotomy, on account of its danger. By the aid of a Smith's gag, a thermo-cautery was introduced into the mouth, and inserted into the tonsil to the depth of one centimeter. The operation was repeated every eight days, and from two to four sittings were required, at the end of which the tonsil would be found to be completely shrivelled up. It had proved very successful in the hands of St. Germain, and although he had now resorted to it in a large number of cases, no bad results had ever been noted.

Dr. Smith said he had applied to Dr. A. D. Rockwell for an expression of his opinion in regard to the procedure, as he knew of no one more competent to judge of its merits; and Dr. Rockwell had written that while St. Germain's reputation was such that a measure so highly recommended by him was worthy of the closest attention, his description of the method was too brief and vague to render a satisfactory discussion of the matter possible. He had used the thermo-cautery only in small external tumors, but, from our general knowledge of the action of this agent, he thought the claims of St. Germain very plausible. The galvano-cautery had the advantage over the knife of giving rise to much less danger of hæmorrhage or pyæmia; but, as its application was painful, and required from six to eight minutes at a time, he thought it very doubtful whether it could be successfully used in the case of young children. Igni-puncture, on the contrary, he believed, could be employed with facility, for the reason that it acted instantaneously, while it gave rise to much less danger of hæmorrhage, and would be followed by far better healing than tonsillotomy.

In regard to circumcision, Dr. Smith said that a number of cases of diphtheria had been reported as following the operation. The essential point about it was the removal of the smegma, and breaking up of any adhesions that may exist, and this, he thought, could be accomplished more successfully with dilatation. For dilating the prepuce, he was in the habit of using the long, slender forceps made for removing foreign bodies from the ear. The retraction of the prepuce could be best accomplished by the fingers, not oiled, and sometimes with the assistance of a simple probe. In the out-door department of Bellevue Hospital, Dr. Holbrook had informed him, this had been the plan of treatment resorted to for the last sixteen years.

DISCUSSION.

DR. C. A. LEALE said that he thought Dr. Smith was mistaken in supposing that the great mass of intelligent American practitioners did not recognize or appreciate the importance of the existence of cerebral irritation in infants and young children. It was a subject with which most good physicians were perfectly familiar, although there were no appreciable pathological changes at first. The only suggestion that he would make as regards treatment was that the bromide of sodium should be substituted for bromide of potassium, as he had found that, as a rule, it was much better borne by the stomach than the latter.

Dilatation of the prepuce had long been successfully practised in America, and St. Germain's paper in regard to it was nothing new here. There was one source of irritation which he had not seen alluded to by authors; namely, the existence of minute ulcerations under the prepuce. He was in the habit of touching these with nitrate of silver, after which they usually gave rise to no further trouble.

DR. J. R. MACGREGOR said, in regard to whooping-cough, that, in addition to the primary cause, he believed there was an intense neurosis, which it was necessary to control in order to deal satisfactorily with the disease. Almost every physician had some favorite remedy, and, personally, he had found that he could get the best results with oxalate of cerium. It was his practice to give five grains of this remedy once a day, early in the morning, in exceptional cases repeating the dose again at night. As to the prevention or removal of cerebral irritation in young children, he thought a great deal could be accomplished by simple education. This condition was, no doubt, often due to mistaken treatment on the part of parents, the children being played with too much, or otherwise subjected to over-excitement and stimulation of the nervous system. He could see no great objection to circumcision, and believed that many of the cases of diphtheria reported as following it were due to carelessness, on the part of the operator, with instruments, etc. He had tried dilatation, but had to confess that he had found it somewhat difficult and unsatisfactory.

DR. C. S. WOOD said that there was one point to which he desired to call attention in connection with the subject of cerebral irritation, and that was the condition of the mother when nursing her infant. The importance of quiet and tranquility at this time, on account of its influence on the child, was fully recognized by many mothers, as they had themselves observed the injurious effect produced by excitement, strong emotion, or over-fatigue. A useful hint, he thought, was afforded to physicians.

DR. J. W. S. GOULEY said that, in ordinary cases, the retraction of the prepuce, and washing away the smegma was sufficient; but when the præputial orifice was very narrow, it was not safe to attempt this, on account of the danger of producing paraphimosis, which was always a serious matter with children. In such cases, there was no question in his mind that excision of the prepuce was generally the best treatment. No sutures were required, and the wound readily healed, if left to itself. Dilatation, or, more properly, divulsion, was not an easy operation, and the younger the child, the more difficult it was to perform. It could be most satisfactorily accomplished by means of Trousseau's tracheotomy dilator, but the procedure was always to be condemned when the prepuce was narrow and indurated.

Dr. Alfred L. Carroll read a paper on

MINERAL-WATER MIRACLES,

after which Dr. Gouley presented a specimen of

DERMIC CYST OF THE SCROTUM,

in which fatty degeneration had been followed by calcareous infiltration, with the development of a small amount of osseous tissue, true bone-walls being found under the microscope.

Recent Literature.

Evacuant Medication (Cathartics and Emetics). By Henry M. Field, M.D., Professor of Therapeutics, Dartmouth Medical College. Philadelphia: P. Blakiston, Son & Co. 1887. 228 pages.

To the two groups of remedies, cathartics and emetics, considered in this work, it is well to have the attention of the practitioner directed, and if he reads this book, he will learn some things of interest not easily found in the text-books on therapeutics.

The author has written a work which includes more than would be found in a single text-book, but a large part of what is most useful would be found in any good one. The chapters on emetics are less valuable than those treating of cathartics. A diagram of the gastro salivary circulation, page 152, may also be found on page 316 of Dr. Brunton's work, and a diagram of the mechanism of reflex nausea, according to the author, "adapted from one first proposed by Lauder Brunton," is identical with one to be found on page 324 of Dr. Brunton's work, edition 1885.

Leçons sur les Maladies du Système Nerveux, faites à la Salpêtrière. Par J. M. Charcot. Tome troisième, (deuxième fascicule). pp. 129–518. Paris: 1887.

The publication of a volume by Charcot may well be regarded as a noteworthy event in the literature of diseases of the nervous system, even at a time when so many works of value as have been published in the past year have rendered the reviewer's task no small one. The present work which completes the third volume of Charcot's lectures on diseases of the nervous system, is, of course, made up of the reports of his lectures that have appeared from time to time in *Le Progrès Médical*, but all who have read them there will welcome them in their more accessible form. These lectures treat of double sciatica, word-blindness, soul-blindness, the amyotrophies, chorea, spiritualism and hysteria, isolation in the treatment of hysteria, hysteria in the male, hysterical monoplegia, hysterical coxalgia, hysterical contracture, and hysterical mutism. As it will be seen, the main part of the work is devoted to the functional neuroses, especially to hysteria and hypnotism. It is needless to speak of the value of these observations; the work of Charcot at la Salpêtrière on hysteria is known by reputation throughout the world, and the great clinical teacher's acumen was never more brilliantly displayed than on this subject. We cannot speak in detail of the observations here collected, but we must cite briefly his conclusions as to the etiology of traumatic hysteria. In his hypnotized patients, he finds that he can, by suggestion, produce symptoms that simulate precisely those presented in traumatic hysterical monoplegia, coxalgia, contracture, etc. He therefore concludes that the trauma which precedes and is supposed to cause these paralyses or other symptoms, really brings on a state of "nervous shock," which is allied to the hypnotic state. Of course, this state of "shock" is produced most easily in subjects predisposed to nervous troubles. In this state of "shock," or "obnubilation of the ego," as in the hypnotic state, any slight injury will act as a suggestion and produce the idea of motor impotence, which ultimately developes into a complete paralysis, hysterical paralysis, the paralysis dependent on idea, or the Schreckl\u00e4hmung of the Germans. In his analysis of the cases reported, he demonstrates most convincingly their hysterical character and their relations with the phenomena of the hypnotic state. We have space to call attention to but one more point, and that is the proofs that he gives of the necessity for isolation in the treatment of hysteria — not isolation from other patients necessarily, for his cases recovered in the wards of la Salpêtrière surrounded by all the hysterical patients there, but absolute separation from the patient's family and home surroundings — a *sine qua non* in the treatment of the disease.

Massage as a Mode of Treatment. By William Murrell, M.D., F.R.C.P. Third edition. Philadelphia: P. Blakiston, Son & Co.

The appearance of the third edition of Dr. Murrell's interesting little book at the end of nine months from the first, is proof of the favor with which it has been received. Having undergone the full period of utero-gestation, we predict for it a long life; for its digestion and assimilation of the most recent developments in the use of massage in medicine and surgery, evince a keener appetite and a sturdier growth than we expect to find at such an early age. Like its predecessors it makes a vigorous plea for the proper administration of massage in suitable cases, and it has many choice selections from various sources well connected with the author's own experience. Our readers will find it worth while to see what it says about the use of massage in heart disease, intermittent fever, fractures, chloral poisoning and the morphia-habit.

Reference to the case of "played out" should have been omitted, for massage is not mentioned in connection with it. We await with interest the result of the announcement that many surgeons are now employing massage in joint affections in England.

The plates at the end of the book are worse than useless, and we wish that the author had given the source from which he obtained them, so as to relieve himself of the responsibility of having reproduced them. The style of the American reprint has improved, and there are but few typographical errors.

D. G.

— The Crown Prince of Germany has recently had while at Toblach, a sharp attack of inflammation of the trachea and larynx. This fact, together with the cessation of bulletins in the English papers, after the Prince left that country, and a general undefined apprehension on the subject, has led the public press to express alarm as to his condition. Sir Morell Mackenzie authorizes the statement that up to October 22, the Prince's condition was highly satisfactory, there being nothing in the throat that need cause present alarm or well-grounded apprehension for the future.

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QUARANTINE ARRANGEMENTS AT THE ATLANTIC SEAPORTS.

WE referred last week to the danger of an importation of cholera inseparable from the arrival at our seaports, and especially at the port of New York, of vessels direct from the infected ports in lower Italy and Sicily, bringing large numbers of Italian immigrants of the lower classes and of filthy habits. We then knew a growing uneasiness existed, and was justified, in regard to what had already occurred at New York in the case of the *Alesia*, the *Britannia* and the *Independente*, and the possibility of the future occurrence of similar incidents could not be denied. This uneasiness has since found expression in the report [1] of a committee of the College of Physicians of Philadelphia rendered October 28th, and in a report of the chairman of the committee on Hygiene of the Medical Society of the county of New York, at a recent meeting of the society.

The Committee of the College of Physicians of Philadelphia was appointed October 5th "to consider the present danger of the importation of cholera into this country, and to secure concerted action among the Medical Societies in urging upon the State and National authorities the adoption of a uniform and efficient system of quarantine for all exposed ports," and consisted of Drs. J. C. Wilson, Shakspeare and Cleeman. This report considers first, the question of what are the requirements of an efficient maritime quarantine against cholera; secondly, to what extent do the existing arrangements at the ports of New York, Philadelphia and Baltimore fulfil these requirements. The committee only had time to visit these three ports, and therefore draw their conclusions from them. Dr. J. C. Peters in the report to the New York Society confined his statements to the quarantine arrangements at the port of New York alone. Both reports are substantially agreed as to matters of fact in regard to arrangements at Hoffman and Swinburne islands in the lower bay at New York harbor, and in the unfavorable conclusions which the reporters draw from their observations. The truth seems to be simply this: that whilst the buildings themselves are sufficient, they are not fitted with the necessary furniture or appurtenances, the water-supply is improperly located, the water-closet and washing arrangements are insufficient or out of order, and there is no resident physician, there are not suitable nurses. There is a fatal lack of surveillance on these islands.

The quarantine establishments at Philadelphia and Baltimore, the Committee of the College of Physicians points out, fail in the most essential requisites of the necessary number of properly equipped buildings for the isolation and observation of a large number of immigrants, but they have some bedsteads and bedding which are lacking at New York; moreover these stations, though without sick, are provided with resident physicians.

Dr. Peters thinks $5,000 would be sufficient to put Hoffman's Island — where immigrants are detained under observation — in complete and efficient order. If so, the discredit of the present state of things is the greater, especially at a port like New York, where the sum total of the fees is enormous, although we believe they are not responsible for such expenses. Dr. Peters suggests that the State Legislature order that a fixed sum should be appropriated annually out of the quarantine receipts to keep the buildings and apparatus in full efficiency, and the medical staff complete.

There is, of course, the other side to this question, which cannot be overlooked, which is, that we have to do with a very dirty people, of almost barbarous habits, in dealing with the southern Italian immigrants, and it is easier to provide knives and forks, washbasins and water-closets, than to make them use them. It would be better for our country if this immigration could be stopped entirely while cholera is prevailing as at present in Southern Italy and Sicily. As things are at present, or were until very recently, the *Alesia's* passengers might be detained under observation all winter, unless the cold ultimately did the work which the quarantine should have done at once.

We are glad to feel assured that the provisions for observation of the apparently well, and for the care and isolation of the sick at the quarantine station of the port of Boston are sufficient, and could be made in a few hours entirely satisfactory for any demand at all likely to be made upon them. Fortunately, for Boston, there are no steamship lines trading with southern Italy, and the only immediate duty liable to fall upon her health officials is the hunting up of the families or individuals, who, having slipped through New York, come here as they may go elsewhere through the country. The thorough disinfection of the effects of such arrivals, especially of their *old soiled clothing or bedding*, is of the first importance, and we understand that proper precautions have already been taken in the few instances where such unwelcome travellers have arrived and have been discovered.

[1] Medical News, (extra issue) October 29th.

PROFESSOR SARGENT ON THE ATHLETE.

The November number of *Scribner's Magazine* has a paper by Dr. Sargent, Director of Gymnastics at Harvard University, which deserves attention. He discusses the physical characteristics of a few students (if the word is allowable) at Harvard and Yale, who have distinguished themselves in certain branches of athletics, and compares the types of the rower, the sprint-runner, the pitcher, etc., one with another, besides alluding to the proportions of one or two celebrated professional athletes. The article is illustrated by admirable reproductions of photographs of which we hesitate to say all we think, lest we should appear partisan by our praise. The various measurements are represented by plottings on charts showing the departure of each from the mean. Dr. Sargent has described this method in an earlier paper, to which and to the present one we must refer those who would follow this investigation in its details. We offer only a general view.

The proportions of a certain short-distance runner are very interesting. Tall and spare, with clean-cut but not large muscles, long legs, and a good chest, this young man looks fitted to be a marvel of fleetness. That his looks do not belie him is proved by his record of one hundred yards covered in ten seconds, and better still, two hundred and twenty yards in twenty-two. Dr. Sargent holds that the characteristics of a sprint runner are relatively long legs, short body, full chest and small bones. The advantage of lightness of skeleton for the execution of rapid movements through long curves by the ends of long bones is quite evident. The height of short-distance runners is, we believe, generally above the mean (it is so in every case of which Dr. Sargent publishes the record) but there are exceptions, and in these especially it appears that a relatively long lower leg is of value. Myers is quoted as an instance. This celebrated professional runner is but five feet seven and one-half inches tall, but the length of his lower leg corresponds to that of a man of more than five feet ten, and his thigh to that of a man of five feet nine, while his sitting height is that belonging to a man of but five feet four inches. The characteristics of long-distance runners stand out less sharply, which is perhaps to be accounted for by short races being more fancied at college than long ones, so that there are fewer men who become really good in the latter. To our mind the most important characteristic that Dr. Sargent has observed in this class is the great girth of the lower part of the thorax.

The photograph of a Yale student, distinguished as a pole-vaulter, shows a striking but somewhat one-sided development. The muscles of the chest and shoulder are remarkable, but seem out of proportion to the rest of the figure. The lower part of the chest is small but the legs are finely modelled. In fact, this gentleman holds the inter-collegiate record for broad-jumping. In contrast to the sprint-runners are three members of the University crews and of the foot-ball teams of their respective colleges. They are marked by heavy frames, great muscular development, long backs and short powerful legs. Dr. Sargent attributes this great and well-distributed strength to foot-ball and to the gymnasium rather than to rowing. Foot-ball in spite of its dangers must, as he points out, be a great strength producer by its demands on all parts of the frame in running, pushing, pulling and resisting. Rowing as practised in these days of sliding seats makes great demands on the back and legs and tells less on the muscles of the chest and arms than of old. Dr. Sargent maintains, however, that it is a great exercise for enlarging the chest. The photographs of two base-ball players show much more symmetrical proportions than any we have as yet alluded to, but, unfortunately for any generalizations therefrom, we find that one is also a foot-ball player.

It is clear that some of the elements of success in certain sports are inborn and not acquired. If a short trunk and long legs are of great advantage to a sprint-runner and a long trunk and short legs to an oarsman, a young man who has the characteristics of either of these classes well marked can hardly hope to attain eminence in the other. Professor Sargent's theory of what should be done in such cases is a very sound one. "Add," he says, "to this inheritance the prolonged training that tends to cultivate these special powers to the extreme and we get sometimes a prodigy, but more often a failure." Now the aim of Universities in regard to physical culture is, we take it, to send out finely developed young men good for "all round" work and not prodigies in particular departments of athletics. Hence the man with naturally strong legs should take such exercise as will develop his weaker arms, and *vice versâ*. Dr. Sargent protests against the error into which a careless reader of his papers might easily fall, that the normal man is one whose every proportion shows the mean development. This is as much as to say that the normal man is one of symmetrical mediocrity. What is to be aimed at is to have all parts exceed the mean as nearly in equal proportion as may be. Needless to say that such acquired perfection is to be desired rather than attained. A man of precisely the mean height and the mean girth of chest cannot hope to increase the former in equal proportion to the latter. The principle, however, is an excellent one that the young man should labor to strengthen his weaker points rather than to develop indefinitely his stronger ones. We do not know that it is desirable that young men should aspire to be "record-breakers" in particular sports. It seems to us better that they should be moderately good in all, but we recognize that while human nature is what it is many will aspire to special excellence. It would be a curious problem for some expert in animal mechanics to decide just how a man should be built to use his strength to the greatest advantage in certain contests. Dr. Sargent raises the question but leaves the answer to time and statistics. "It would,"

he writes, "be of interest to know if an inch added to Myers' legs would have made him a greater runner than an inch added to his sitting height; or an inch added to Hanlan's long body would have made him a greater oarsman than an inch added to his relatively short legs."

There is one very important aspect of this subject that we are glad is not overlooked; it is, whether the athlete has the strength of constitution necessary to stand the strain of severe muscular exercise. We notice that, in the cases of two of the three foot-ball players and rowing men, the lung capacity is said to be insufficient to support the fine muscular development. Indeed, other factors have to be reckoned in this inquiry, and some of them do not lend themselves to tabulation. There are men whose organs show no defect, but who cannot bear the strain of prolonged exertion, especially if severe. Some cannot sleep, some cannot eat, some have nervous disturbances, all of which suggests that mental qualities are involved, as well as bodily ones, in the production of the athlete. We have heard the statement made, by one who well knew what he spoke of, that college men who aspire to success in both studies and athletics suffer in their constitutions. To restrain such from exertions that they cannot safely make should be, and, we believe, is, one of the duties of the professor of physical culture.

This topic suggests a number of interesting and vital questions. Space allows us merely to mention some of them. For instance, what exercise is to be recommended to the hard student? He has, perhaps, no knack for games; the weights or the bars are to him as cheerful as a treadmill; he cannot afford a horse, even if he knew how to ride. To him, a walk is about all there is left. It is cruelty to compel him to do work which he loathes, and he is likely to get little encouragement to learn games that he does not know. On the other hand, there are those to whom proficiency in games is an instinct, and the *gaudium certaminis* a stimulant — almost an intoxicating one. To advise these men to take sober walks, that they may avoid over-exertion and broken bones, is an absurdity, but they may accept and profit by advice as to how to best develop their powers. Still, to these the monotony of a gymnasium will, in the long run, be irksome. The tennis-player will admit that his right arm exceeds his left, without caring to correct it. In point of fact, he cannot correct it without taking time from his favorite game, and thereby injuring his proficiency. Is it likely that he will make this sacrifice from an abstract love of the symmetrical? and, after all, is it reasonable to ask that he should?

When we consider the numberless varieties of temperament and disposition, of health and courage, of inherited and acquired tastes, we see that the physical education of young University men is a task as difficult as it is important, a task likely to tax the best judgment of university authorities, as the Committee on Athletics at Cambridge could probably testify.

MEDICAL NOTES.

— The United States Consul-General at Rome, in his dispatch to the Treasury Department, under date of October 10, 1887, states that the vice-consul-general has just succeeded in obtaining from an official source the following facts in regard to the cholera in that city:

"From August 16, 1887, to October 7th, included, there were buried in the cemeteries of this city 204 bodies of persons certified in a special official register to have died of Asiatic cholera.

"As the ordinary portion of deaths in cases of cholera in Italy during the last four years have been a little less than 50 per cent., it may be safely assumed that there have been in Rome, between August 16th and October 7th, more than four hundred cases of cholera. There has been at no time more than ten burials in consequence of deaths by cholera during any one day since August 16th, and during the week ending October 7th, the average number of such burials was less than two per day. On October 6th and 7th, there was one such burial on each day. There were, on October 7th, ten cholera patients in the lazaretto, and thirty persons detained under surveillance in the house of observation. At one time in August or September, there were nearly three hundred persons so detained."

Dr. J. Y. Porter, United States quarantine inspector at Tampa, Fla., reports, under date of October 26, 1887, "a total of 225 cases of yellow fever, and 34 deaths to date. Fourteen new cases yesterday. About 80 sick now."

The Health Officer of the Port of New York, Dr. Wm. M. Smith, reports, under date of October 26, 1887, as follows: "The steamship *Britannia* was detained in first instance because diagnosis of surgeon of cases died at sea was unsatisfactory. On the 16th, a case developed that was very suspicious. Autopsy and biological examination confirmed suspicion of cholera — day after conclusion of investigation, 23d; another the 24th. The infection among the *Alesia's* passengers destroyed, there need be no apprehension concerning the *Britannia*."

— It is pleasant to see ourselves as foreigners see us. In the report of the Ninth International Congress by Dr. E. P. Hurd in the last number of the *Bulletin Général de Thérapeutique*, the venerable Dr. Leidy is transformed by the malicious types into Lerdy, and Drs. Warren and Parvin are merged into one personality — Warren-Parvin.

— We learn from an English contemporary that a well-known ex-executioner, Binns, is at the present time travelling in that country with an exhibition illustrating his method of dispatching the victims of the law. The performance is prefaced by a lecture account of Binns' own life and history, which is delivered by an assistant, and at its conclusion the ex-hangman steps forth, while a curtain ascends revealing a gallows and drop of the regulation pattern, and

dummy figure pinioned and standing ready for the adjustment of the noose. This last operation is next methodically gone through, and the final act of the drama completed by the withdrawal of the bolt and disappearance of the wax figure beneath the drop. The public attendance is large, the profits of the exhibitor are greater than the exercise of his practice on the living subject, and the effect on the public morals is about as bad as can be.

— Dr. Achilles Nordmann, of Basle, has, says the *Lancet*, published a description of twenty-five bowel lesions due to the operation of administering enemata. They include three complete perforations and ulcers, and wounds of various depths and sizes. The causes of these lesions seem to have been the use of defective instruments, ignorance of the direction of the rectum, catching of the transverse fold on the tube, extreme irritation of the mucous membrane of the bowel, and obstructions caused by certain conditions of the uterus, the fœtal head, or an enlarged prostate. As a rule, these lesions are to be found on the anterior wall of the rectum, from one to seven centimeters from the anus. They are not always easy to diagnosticate, as other foreign bodies or caustics may produce similar appearances. Tubercular and hæmorrhoidal ulcers may be mistaken for them; these are, however, generally higher up. A perforating wound gives rise to paraproctitis, but this is not necessarily fatal, though a stricture generally results.

BOSTON AND NEW ENGLAND.

— The annual meeting of the board of corporation and lady visitors of the Free Hospital for Women was held in Boston, October 27th. The whole number of patients admitted during the year was 129; of these, there were discharged cured or relieved, 98; discharged unrelieved, 3; left against advice, 6; entered for diagnosis only, 18; died, 4. The longest time of any one patient in the hospital was 216 days, the shortest stay one day, and the average 41, 12–31 days. In the out-patient department, there were 2,375 patients treated, being nearly double the number last year. During the year, Dr. C. P. Strong has been elected by the trustees to fill the vacancy occasioned by the resignation of Dr. J. W. Elliott, and Dr. Arthur W. Clark has been elected surgeon to out-patients, in place of Dr. F. W. Johnson. The Treasurer's Report showed the expenses for the year to be $7,562.86, of which about $1,000 was for legal expenses in defending a suit against the Hospital. The receipts, including a legacy of $5,000, were $14,539.

A committee of five was appointed to take into consideration the matter of erecting a new hospital building, and to select plans for the same. The election of officers for the ensuing year resulted as follows: Board of Trustees: George Dexter, President; Alfred Rodman, Treasurer; Nathaniel U. Walker, Secretary; Henry W. Daniel, William H. Baker, M.D., Grant Walker, Edwin H. Sampson, Henry C. Haven, M.D., Joseph W. Woods. Medical Staff: William H. Baker, M.D., Visiting Surgeon; F. H. Davenport, M.D., Assistant Surgeon; Charles P. Strong, M.D., Assistant Surgeon; Surgeons to Out-patients, Drs. C. P. Strong, J. B. Swift, Arthur W. Clark; Pathologist, W. F. Whitney, M.D.; Consulting Board, Drs. D. H. Storer, A. D. Sinclair, J. P. Reynolds, F. Minot. Financial Committee, Alfred Rodman, Henry L. Higginson, William H. Baker, M.D. The meeting then dissolved.

— At the meeting of the Norfolk District Medical Society, last week, Dr. B. E. Cotting read extracts from an interesting paper prepared by him, containing reminiscences, personal and professional, of the fifty years of medical practice which he has just completed. At the close of the meeting, Dr. Cotting entertained the members most hospitably at luncheon.

— The one hundredth anniversary of the founding of the Berkshire Medical Association for the improvement of the Art of Physick was agreeably and suitably celebrated last Thursday, October 27th, at Pittsfield by a dinner given by the Berkshire District Medical Society, at which Dr. Abner M. Smith, of Pittsfield, presided, Dr. Andrew M. Smith, of Williamstown, read an interesting historical retrospect, and Dr. J. F. A. Adams, of Pittsfield, read a poem. There was some after-dinner speaking in which U. S. Senator Dawes, Dr. Whittlesey, president of the Society, Dr. Thaddeus K. De Wolf the oldest living member, and others took part. The JOURNAL was represented by Dr. George B. Shattuck.

NEW YORK.

— At a meeting of the Medical Society of the County of New York, held October 24th, Dr. John C. Peters, Chairman of the Committee on Hygiene, made a report on quarantine and cholera, which gave an unfavorable account of the condition of affairs in the lower bay. "I found," he said, "great deficiencies on Hoffman's Island, and was told that far greater ones prevailed four weeks ago, when the *Alesia* landed her six hundred steerage passengers there, although all had had four years' continuous warning of cholera in Egypt, France, Italy, or South America. I heard that only $5,000 was wanted to put Hoffman's Island in complete and efficient order, and that, for the want of this paltry sum, not only this great city, but the whole country, had been, and still was, running great risks from various contagious or pestilential diseases, including cholera. . . . In default of table knives and forks, the emigrants are obliged to use their pocket-knives and fingers. This fact led me to my first clue to the persistence of cholera on Hoffman's Island. In order to be operative in the human body, I believe the poison has to be swallowed in food or drink. Cholera water contamination causes sudden and extended outbreaks of the disease, and the water-supply is inadequate at Quarantine. If dirty, cholera-soiled hands are put into the food, those who partake of it from the same dishes

will be liable to an attack. I learned that twenty-eight out of twenty-nine cases occurred in one room. In the infected room, families and groups of associates and messmates have been particularly unfortunate, because they ate out of the same dish. This seemed to me to be the clue to the whole mystery."

The best remedy for the existing evils, Dr. Peters thought, would be for the Legislature to order that a fixed sum should be appropriated each year out of the quarantine receipts, sufficient to keep the buildings and apparatus in full efficiency, and the medical staff complete.

— Considerable dissatisfaction has been found with Health Officer Smith for having permitted the passengers of the steamship *Independente*, many of whom were from cholera-infected ports in Italy, to land without being subjected to any detention at Quarantine, and for having allowed the *Britannia*, among whose passengers, at least, two cases of cholera, with one death, have since occurred, to come up to, and remain for several days, at Upper Quarantine, in free intercourse with persons from the mainland.

— At a meeting of the Quarantine Commissioners held October 27th, a dispatch was received from Dr. Smith, stating that there had been no sickness on the *Britannia* since October 24th. Some time was spent by the Commissioners in discussing what measures could be taken to prevent immigration from infected districts, and a resolution was passed requesting the President of the Board to communicate with the Secretary of the Treasury, as to whether ships with immigrants on board, from ports where cholera is prevailing, cannot be sent back again, and request that, if power to return such immigrants to the ports of embarkation lies with the Department, it should now be exercised.

— Dr. James Knight, surgeon-in-chief of the Hospital for the Relief of the Ruptured and Crippled, died October 24th. He was born at Tarrytown, Maryland, in 1810, and was graduated from the Washington Medical College, Baltimore, in 1832. He was the founder of the hospital referred to, which was built in 1870. In 1868 he published a work on the "Improvement of the Health of Children and Adults by Natural Means," and in 1874 one on "Orthopædics," a second edition of which appeared ten years later.

— By the will of the late Frederick H. Cossitt, a large number of charitable institutions, among them St. Luke's, the Presbyterian, and the Womans' Hospitals, the House of Rest for Consumptives and the Home for Incurables, have received legacies; the amount in most instances being $5,000.

— Dr. John M. Carnochan, the well-known surgeon, who was Health Officer of the Port for two years, under Governor Hoffman, died of apoplexy, October 29th. Dr. Carnochan was a native of Savannah, Ga., and was born July 4, 1817.

Correspondence.

GLEDITSCHINE-STENOCARPINE.

BOSTON, October 29, 1887.

MR. EDITOR,—In view of the commendation by Dr. Mattison of the so-called "newly-discovered alkaloid, gleditschine-stenocarpine," given upon page 419 of this week's issue of your JOURNAL, a paper on "What is Stenocarpine (Gleditschine)," by Prof. F. G. Novy, in Ann Arbor, contained in the November, 1887, number of the *Pharmaceutical Rundschau*, may be of interest. The article concludes as follows: "The so-called gleditschine or stenocarpine consists, therefore, essentially of 6 per cent. of cocaine hydrochloride; 0.50 per cent. of atropine sulphate, and about 0.33 per cent. of salicylic acid. The latter is used as a preservative." The article ends with the final word "*Humbugs*."

Yours respectfully,

BENNETT F. DAVENPORT, M.D.

THE MANY-TAILED BANDAGE IN FRACTURES ABOUT THE SHOULDER.

ROXBURY, October 26, 1887.

MR. EDITOR,— My attention has just been called to some remarks on the above head in the JOURNAL, of September 29, 1887, page 299, in an article by Dr. H. L. Burrell, Surgeon to Out-patients at the Boston City Hospital, comprising a record of "Four Months' Experience in Minor Surgery" at that institution. After mentioning several other appliances for the purpose of fixing the shoulder, namely, Velpeau's, Sayre's, Kelly's and Whitney's, (all by the names of their inventors), he goes on to say that the "'many-tail' bandage" (which is named first, and seems to have been oftener used than the others), "is open to the objection that it frequently cramps the arm and hand, so that the patient has not infrequently complained more of the bandage for the first forty-eight hours than of the injury for which the bandage is applied. This, of course, is true of all retention bandages in which the arm is flexed upon the chest, but has been especially marked in the 'many-tail' bandage."

Now I believe I had the honor of first suggesting the use of a many-tailed bandage for the purposes above described at a meeting of the Norfolk District Medical Society, held November 25, 1885. I there showed the form of bandage which I had devised, and also a model with the apparatus applied. I remember that one, at least, of the City Hospital surgeons was present at this meeting. The same appliance was afterwards exhibited before the Surgical Section of the Suffolk District Medical Society on June 6, 1886. At this meeting, two, at least, of the City Hospital surgical staff were present, both of whom, I recollect, did me the courtesy to commend personally my little contrivance.

Finally, a description of the same was published in the BOSTON MEDICAL AND SURGICAL JOURNAL, January 6, 1887, pp. 10 and 11, in an official report of the Surgical Section of the Suffolk District Medical Society, under the heading "An Apparatus for the Treatment of Fractured Clavicle." The only error in that report is in the date of the meeting at which the apparatus was shown, being January 6, 1886, instead of May 5, 1886, as stated in the report.

The apparatus (*vide. loc. cit.*), consists of a broad belt of sticking plaster to go round the chest, and a many-tailed bandage of stout cloth sewed across the back of the plaster by two parallel seams, three inches apart. The plaster belt is then adjusted round the chest so that the space between the seams will fall exactly in the mid-axillary line, the axilla padded if necessary, and the cloth "tails" brought round the arm and pinned. This bandage does not, and cannot produce pain, unless drawn too tight.

What kind of a "many-tail" bandage Dr. Burrell made use of in his experiments is not stated, but I have reason to know that an exceedingly ill-conceived imitation of my bandage was introduced into the City Hospital very shortly after the exhibition of my apparatus before the two learned

societies above named. On July 19, 1886, (six months after the showing of said apparatus, and six months before the published description of it in the JOURNAL), I was told by a personal friend, then a student of the Harvard Medical School, that he had seen a bandage similar to mine used at the City Hospital the previous spring, and heard it described to the students as a new device (though without mention of my name), and that the hospital surgeons (or their assistants) had made the "tails" which go round the arm of *sticking-plaster* instead of *cloth*, as used and recommended by me.

Now, it is perfectly self-evident that these plaster strips must exert most painful traction on the skin, obstruct the free circulation of the limb, and increase the danger of compression, swelling and gangrene; whereas cloth yields a little, and can be loosened or tightened according to the patient's feelings. Then, if the space between the two seams on the inside of the arm, especially intended to prevent pressure on the brachial vessels and nerves, happened to be left out also, and the ends drawn smoothly and tightly as possible, after the manner of the artistic hospital dresser, it is easy to see how the hospital bandage *might* have produced all the ill consequences which Dr. Burrell charges against it. I am sure I have never experienced any such results, nor do I understand how any surgeon, possessed of that reasonable amount of skill and science which the public has a right to expect, could be capable of applying a bandage which, during the first forty-eight hours, produced more pain to the patient than the injury for which it was applied. (!)

The question remains to be answered, as it seems to me:

First. Whether the condemned bandage was properly made?

Second. Whether it was properly put on?

Yours respectfully,

EDWARD T. WILLIAMS, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 22, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	616	237	19.52	14.24	5.12	1.44	7.68
Philadelphia	993,801	328	109	18.30	14.10	2.10	4.80	9.00
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	155	63	16.90	9.75	5.85	1.30	5.85
Boston	400,000	200	58	15.00	16.00	4.50	3.00	4.00
New Orleans	242,750	137	35	18.98	10.95	6.57	.73	11.68
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	77	23	24.51	10.32	6.45	9.03	2.58
Pittsburgh	210,000	72	27	36.14	12.51	2.78	11.12	19.46
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	59	32	18.59	3.38	1.69	1.69	10.14
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	29	9	20.70	20.70	13.80	3.45	—
Charleston	60,145	38	12	18.41	10.52	5.26	5.26	8.89
Portland	40,000	12	4	20.00	16.66	—	—	25.00
Worcester	68,383	17	4	11.76	16.64	—	—	11.76
Lowell	64,051	23	6	34.80	8.70	8.70	8.70	13.05
Cambridge	59,960	20	7	15.00	10.00	—	5.00	10.00
Fall River	56,863	21	10	33.33	9.52	14.28	—	9.52
Lynn	45,861	7	—	28.56	14.28	—	—	28.56
Lawrence	38,825	7	2	14.28	28.56	—	14.28	—
Springfield	37,577	8	2	25.00	—	12.50	—	12.50
New Bedford	33,393	20	9	35.00	10.00	—	—	35.00
Somerville	29,992	10	3	20.00	10.00	—	10.00	10.00
Salem	28,084	—	—	—	—	—	—	—
Holyoke	27,894	7	—	14.28	14.28	—	14.28	—
Chelsea	25,709	13	4	30.76	—	—	—	—
Taunton	23,674	8	—	12.50	37.50	—	12.50	—
Haverhill	21,795	7	2	—	28.56	—	—	—
Gloucester	21,713	4	2	—	—	—	—	—
Brockton	20,783	7	2	14.28	—	—	—	14.28
Newton	19,759	6	1	16.66	16.66	—	16.66	—
Malden	16,407	6	3	—	33.33	—	—	—
Fitchburg	15,375	3	1	—	33.33	—	—	—
Waltham	14,009	7	—	—	28.56	—	—	—
Newburyport	13,716	8	—	—	25.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1.828: under five years of age 667; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 389, consumption 258, lung diseases 179, diphtheria and croup 100, diarrhœal diseases 85, typhoid fever 61, malarial fever 24, scarlet fever 24, cerebro-spinal meningitis 10, whooping-cough 10, measles seven, puerperal fever four, erysipelas three, small-pox (New York) one. From malarial fever, New York 11, New Orleans five, Baltimore and District of Columbia three each, Philadelphia and Nashville one each. From scarlet fever, New York 10, Philadelphia and Boston four each, Chelsea three, Baltimore, Pittsburgh and Lowell one each. From cerebro-spinal meningitis, New York, Fall River, and Springfield two each, Boston, Baltimore, Milwaukee and Chelsea one each. From whooping-cough, New York and Philadelphia three each, Baltimore, New Orleans, Pittsburgh, and Milwaukee one each. From measles, New York four, Boston, Baltimore and Milwaukee one each. From puerperal fever, District of Columbia two, Boston and New Orleans one each. From erysipelas, New York two, Baltimore one.

In 24 cities and towns of Massachusetts with an estimated population of 1,109,534, the total death-rate for the week was 19.28 against 18.92 and 20.71 for the previous two week.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending October 8th, the death-rate was 17.5. Deaths reported 3,099: infants under one year of age 815; acute diseases of the respiratory organs (London) 986, scarlet fever 96, diarrhœa 92, whooping-cough 66, fever 58, diphtheria 38, measles 46, small-pox (Sheffield) 13.

The death-rates ranged from 13.9 in Bradford to 30.1 in Preston; Birmingham 15.5; Blackburn 24.1; Hull 15.6; Leeds 19.1; Leicester 17.5; Liverpool 19.3; London 15.7; Manchester 25.6; Newcastle-on-Tyne 19.9; Nottingham 18.4; Sheffield 19.1.

In Edinburgh 18.4; Glasgow 18.7; Dublin 24.2.

The meteorological record for the week ending October 22, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Oct. 22, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ..16	30.33	50.0	63.0	35.0	52.6	33.0	79.0	55.0	S.W.	S.W.	S.W.	12	14	10	C.	C.	C.		
Monday, ..17	30.17	58.0	69.0	45.0	86.0	55.0	94.0	78.0	S.W.	S.W.	S.W.	8	16	8	O.	F.	C.		
Tuesday, ..18	29.96	61.0	71.0	56.0	89.0	70.0	89.0	80.0	S.W.	N.W.	N.W.	14	8	8	F.	O.	O.	½	.01
Wednes.., 19	30.00	48.0	57.0	46.0	83.0	83.0	85.0	84.0	N.	E.	N.	10	12	8	O.	C.	C.		
Thursday, 20	30.05	47.0	54.0	38.0	88.0	68.0	87.0	81.0	N.	E.	S.E.	8	12	10	C.	O.	O.		
Friday, ...21	29.52	48.0	51.0	46.0	100.0	86.0	79.0	88.0	E.	N.W.	W.	24	18	24	R.	O.	O.		
Saturday, .22	29.90	42.0	48.0	38.0	71.0	68.0	73.0	71.0	S.W.	E.	W.	18	24	13	C.	O.	O.	12	.96
Mean, the Week.	29.990	50.6	59.0	43.0				76.7										12½	.97

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 22, 1887, TO OCTOBER 28, 1887.

GREENLEAF, CHARLES R., major and surgeon. Will proceed from this city to the places hereinafter named, in the order in which they are named, for the purpose of investigating the methods of examining recruits at the depots and rendezvous located thereat, and of instructing recruiting officers in matters pertaining to such examinations: Baltimore, Md., Philadelphia, Pa., Camden, N. J., New York City and David's Island, N. Y., Boston, Mass., Portland, Me., Albany and Buffalo, N. Y., Cleveland, Ohio, Detroit, Mich., Chicago, Ill., Milwaukee, Wis., St. Paul, Minn., Jefferson Barracks, and St. Louis, Mo., Cincinnati and Columbus, Ohio, and Pittsburgh, Pa. S. O. 248, A. G. O., October 25, 1887.

CLEARY, P. J. A., major and surgeon. Ordered to proceed from Fort Huachuca to Fort McDowell, and report to the commanding officer for duty as post-surgeon. S. O. 111, Department of Arizona, October 18, 1887.

RICHARD, CHARLES, captain and assistant surgeon. Granted leave of absence for one month to take effect when his services can be spared by his post commander. S. O. 247, A. G. O., October 22, 1887.

BURTON, H. G., captain and assistant surgeon. Ordered from Plattsburgh Barracks, N. Y., to Watervliet Arsenal, N.Y.

MERRILL, J. C., captain and assistant surgeon. Ordered from Watervliet Arsenal to Frankford Arsenal, Pa. S. O. 249, A. G. O., October 26, 1887.

JARVIS, NATHAN S., first lieutenant and assistant surgeon. Ordered for field duty in Department of the Platte. S. O. 246, A. G. O., October 21, 1887.

JARVIS, NATHAN S., first lieutenant and assistant surgeon. Ordered from Department Platte to Department Missouri, for duty in the field. S. O. 249, A. G. O., October 26, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 29, 1887.

BATES, N. L., medical inspector. Ordered to hold himself in readiness for orders to the "Trenton."

HESLER, F. A., assistant surgeon. Ordered to examination for promotion.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The regular meeting will be held at the Medical Library, 19 Boylston Place, Monday evening, November 7, 1887. Dr. Vickery will present a paper upon "Appendicitis, with Report of Cases."

CHARLES P. STRONG, M.D., *Secretary*.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — THE SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE will meet at 19 Boylston Place, on Wednesday, November 9th, at 7.45 o'clock. Business: the Election of a Chairman for the ensuing year. Papers: Dr. E. O. Otis, "Hints to Physicians sending their Patients to Colorado." Dr. E. L. Cail, "A Case of Chronic Pancreatitis, with Symptoms resembling Malignant Disease." Dr. Douglas Graham, "Local Massage for Local Neurasthenia."

ALBERT N. BLODGETT, M.D., *Secretary*.

GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the Society will be held at the Medical Library Rooms, No. 19 Boylston Place, on Thursday, November 10th, at 4 o'clock, P.M. Paper: "A Year's Experience in Hospital Practice," by Dr. H. O. Marcy.

H. J. HARRIMAN, M.D., *Secretary*.

AMERICAN ASSOCIATION FOR THE CURE OF INEBRIETY. — This Association will hold its semi-annual meeting at the Turkish Bath Hotel, Columbia Heights, Brooklyn, November 9th, at 12 M. The following is a list of the papers and addresses to be read: The President's Address, "On the Responsibility of the Inebriate," will be delivered by Joseph Parrish, M.D., Burlington, N. J. "Report on the Colonial Congress on Inebriety, in London," by Dr. T. D. Crothers, Hartford, Ct. "The Pathology of Inebriety," by Dr. Norman Kerr, London, England. "The Physiology of the Drink Impulse," by Dr. J. T. Searcy, of Tuscaloosa, Ala. "Cocaine Toxæmia," by Dr J. B. Mattison, Brooklyn, N. Y. "The Power of Alcoholic Influence," by Dr. T. L. Wright, Bellefontaine, Ohio. "Turkish Baths in Inebriety," by Dr. C. H. Shepard, Brooklyn, N. Y. "Hygiene in the Treatment of Inebriety," by Dr. Albert Day, Boston, Mass. "Report on Asylum for Inebriates in New Zealand and Australia," by Dr. D. McGregger, Gov't Inspector, New Zealand. "Sexual Insanity in Inebriety," by Dr. L. D. Crothers, Hartford, Ct.

OBITUARY.

PROFESSOR VON LANGENBECK.

Bernhard Rudolph Konrad von Langenbeck, one of the most illustrious surgeons of the world, died September 30th, in the seventy-seventh year of his age, at Wiesbaden, where he had resided of late years. He was born in 1810 at Horneburg. He studied at Göttingen, and graduated in 1835 with the dissertation, "De Retinæ Structuræ Penitiore." Soon after he published his essay on the "Origin of Venous Cancer and the Possibility of Transferring Cancer from Man to Animals." He then became Extraordinary Professor in Göttingen, and wrote an essay on "Persistent Spasm of the Fingers and the Application of Division of Muscle and Tendon in its Treatment." Subsequently he busied himself with the questions of "Stammering and the Employment of Myotomy in Defects of Speech arising from Spasm," and the "Immediate Union of Wounds by Exclusion of Air." In 1842 he became Professor of Surgery and Director of the Friedrichs Hospital. In 1848 he was Director-General of the army of the Duchies against Denmark; and in 1847, after Dieffenbach's death, he was appointed Director of the Clinical Institute for Surgery and Ophthalmic Surgery. Amongst other essays of minor importance are the following: "Subcutaneous Osteotomy"; "The Permanent Warm Water Bath in the Treatment of Large Wounds, especially of the Stumps after Amputation"; "On the Extirpation of Interstitial Uterine Fibroids"; "The Osteoplastic Resection of the Upper Jaw"; "Essays on the Surgical Pathology of Veins"; "On Cleft Palate"; "On Resection of the Ankle in Gunshot Wounds"; "On Gunshot Wounds of the Joints"; "On the Terminations of Resection Operations in War"; "On Extirpation of the Pharynx"; "On Gummatous Tumors."

BOOKS AND PAMPHLETS RECEIVED.

Seventh Annual Report of the State Board of Health of New York. Transmitted to the Legislature January 19, 1887. Albany: The Argus Company. 1887.

Clinical Lecture.

SYMPTOMS INDICATING INJURY OF THE ABDOMINAL ORGANS. RECOVERY UNDER MEDICAL TREATMENT.[1]

BY JOHN H. PACKARD, M.D., *Surgeon to the Pennsylvania Hospital.*

GENTLEMEN: The first case that I shall show you this morning is a man who was admitted to the hospital twelve days ago. He was injured by the fall of an archway, burying him under a large quantity of bricks and timbers. On examination, it was found that he had fracture of the femur, fracture of several ribs, and very severe contusions about the abdomen. I wish to call your attention particularly to this latter injury. This class of cases often present considerable difficulty.

When this man was admitted, there was a good deal of shock, the temperature being 98°. As I have said, there was marked contusion of the abdominal walls. There was distinct tympany, the abdomen being greatly distended. There was a great deal of pain and distress, and occasionally, a large quantity of wind would be expelled, with relief. There was difficulty in urination, and a catheter had to be employed for several days. During the first few days, the urine contained blood. The bowels were constipated, and it was difficult to secure a movement. The tongue was dry and brown. The pulse was rapid, and the temperature, which had been 98°, went up to 100°, and, on one occasion, to 101°. It was a serious question with me whether or not there had been some damage to the abdominal viscera, and whether it would not be right to make an exploratory laparotomy, and treat the injury so far as might be possible. Several times, I was about calling a consultation to consider the question, but, on each occasion, on going into the ward, the patient was found in such good condition that the matter was postponed, and he finally improved to such an extent that the idea of any operation becoming needful was abandoned.

The treatment has been expectant, consisting in the use of small doses of spirits of turpentine internally, with turpentine stupes and poultices externally. Under this course, the patient has progressed in an entirely satisfactory manner. Another symptom which I omitted to mention was that, while the tympany was present, there was marked distension of the superficial abdominal veins. This distension always indicates some obstruction to the circulation within the abdomen. If the internal circulation is free, the superficial veins are not apparent. In Cruveilhier's "Atlas of Pathological Anatomy," you will find illustrations of some marked instances, where, as a result of abdominal disease, causing pressure on the internal veins, the superficial veins have become greatly distended.

The points of special interest in this case were the gravity of the abdominal symptoms, the question that arose with reference to the propriety of operative interference, and the subsidence of the symptoms under strictly medical treatment.

A METHOD OF PREVENTING STIFFENING OF THE HIP JOINT IN FRACTURE OF THE THIGH.

This little boy, nine years of age, has a fracture of the thigh, which was received four weeks ago. The limb is in very good line, and there is no shortening whatever. As you see, the child is sitting up in bed. When I was a resident in this hospital, something over thirty years ago, such a thing would not have been allowed. The child would have been kept flat on his back for six weeks, at least. It is to this point that I shall ask your attention in the consideration of this case. This fracture is, I think, now in such a condition that the boy may be allowed to sit up without fear of any disturbance of the union. If he were going to sit up for any length of time, I should have extension applied.

Under this method of treatment, the period of confinement is materially shortened, and, while this may not be a matter of moment in this instance, it is sometimes very important. In some cases of fracture of the neck of the thigh-bone in old persons, the stiffening of the hip-joint is among the most serious of the after-consequences, and it is one of the most difficult to obviate. After recovery from the fracture, the patient finds it necessary to use crutches, and can only go about with the utmost care for some time, on account of the stiffening of the hip-joint. To obviate this, I make the patient begin to sit up about the tenth day, while the extension is allowed to remain. I gradually set him up more and more, keeping the hip-joint limber, and when he is able to get out of bed, there is a considerable degree of motion in the hip, and he is often able to walk without a crutch, or even a cane.

Some time ago, I was called to see a man seventy-two years of age, a workman in a carriage-factory who had fractured the neck of his femur by tripping over some obstruction and falling backwards. He was a man of perfectly sober and temperate habits. I stated, thought, and told him that he would not be able to walk again without the use of a cane or a crutch. Extension was applied, and, at the end of the tenth day, I made him sit up in bed, still keeping up the extension. Fourteen weeks after the fracture, there was no appreciable shortening. Calling at the factory, I learned that the man was at work. For a short time he used a cane, but he soon discarded this, and was able to go up and down stairs without either a crutch or cane, and, while walking on a level, there was no apparent limp. I exhibited this man at the Philadelphia Academy of Surgery, and, from an examination of the man's movements, none of the members were able to state which was the injured limb. Both thighs could be raised with equal facility. When, however, the limbs were examined with care, there was a slight amount of callus, which showed the seat of the original injury.

STAB-WOUND IN THE BACK.

This man was admitted to the hospital ten days ago, with a stab-wound at the lower portion of the posterior aspect of the left chest. The wound was apparently made with a sharp knife. Over and around this region there is now dulness on percussion, and, on auscultation, I am able to hear nothing, although, a little higher, the respiratory sounds are quite distinct. I think that there is no pleuritic effusion, but that the reason that I hear nothing on auscultation is the presence of the large amount of thickening of the tissues external to the pleural cavity. The resident surgeon informs me that friction-sounds were present a few days ago. It is not at all improbable that, as a re-

[1] Delivered at the Pennsylvania Hospital, April 20, 1887.

sult of the inflammation, there has been a localized pleurisy, giving rise to a few adhesions. There is evident thickening of the external tissues. The point of principal interest in connection with this case is that it has been treated in an entirely expectant manner. If we had enlarged the wound under the impression that we must do something, we might have done serious damage. The man could scarcely have done better under any circumstances.

RELAXATION-SUTURE.

The next case is the man from whose buttock I removed the tumor four days ago. On the day following the operation, the temperature went up to 100°, but since then it has been normal. Such a rise of temperature often occurs just after an operation; it does not mean anything, and is not an indication of serious trouble. The relaxation-sutures have been removed, and, as you see, there is a slight mark left where the thread was carried across the wound. You will remember that, in this case, I passed the relaxation-sutures across the deep portion of the wound, and, after securing the thread on each side to pieces of catheter, to prevent cutting of the skin, carried the free ends across the wound, and tied them together. This is not as satisfactory as the plan which I usually employed, but which I omitted on this occasion, on account of want of time. This I do as follows: I have three or four needles threaded with fine silk, the ends of the sutures being formed into loops. Through the loop is passed the relaxation-suture, and carried across the deep portion of the wound, and the fine thread removed, leaving a double ligature across the wound, with a loop on one side, and free ends on the other. The remaining relaxation-sutures are applied in the same way. A piece of catheter is then slipped through the loops on one side, and, on the other side, the free ends are tied over a similar piece of catheter. This, which is simply the old-fashioned quill-suture, has the advantage that there is no cross-tension. Instead of having a tendency to pull across the wound, the tension is downwards, and the external wound is left free. While this groove in the skin does no harm, the application of the suture in the latter way would have been better. The wound is doing very well, and, in a short time, will heal, leaving scarcely any scar.

PROLAPSE OF THE RECTUM. TREATMENT BY THE ACTUAL CAUTERY.

The last case which I shall bring before you is a case of prolapse of the rectum, which is well worth your seeing, as it occurs under somewhat peculiar circumstances. You often find in weakly children, or in old persons enfeebled and broken down by disease, such relaxation of the sphincter that prolapse takes place. In this case, however, the prolapse has been produced in a manner similar to that which obtains in cases of stone in the bladder. It frequently happens in cases of vesical calculus that, in the straining efforts during urination, the bowel comes down, and, in weak children, the bowel often comes down without straining. This man is forty-eight years of age, although he looks older. Until ten years ago, he enjoyed good health, with the exception of an attack of malaria in 1878. Ten years ago, he was treated for stricture of the urethra, which was dilated three times a week for two months. Six years ago, he had a sudden attack of retention of urine. He then went to a hospital, and was treated with bougies. He left the hospital, and, three months later, went to another institution, where he says he was operated on for hæmorrhoids. A few months later, he again had retention, and bougies were again employed. Two and one-half years ago, he first noticed that the rectum came down. This has been gradually getting worse, until, on admission, every time he passed water there was a great prolapse, and an involuntary discharge of fæces. Trying to pass an instrument through the urethra, I found that it was stopped at the prostate. I then used a gum instrument, with a stilette, and passed it into the bladder without difficulty.

Ten days ago I applied the actual cautery, making eschars radiating from the centre, applied carbolized oil, and returned the bowel. This has been attended with good results. There is now much less straining, and much less of the rectum comes down. There is, however, still some displacement. I shall, to-day, give ether to the first insensibility, and shall make a few more applications of the cautery. In this case, there is no enlargement of the prostate gland, and, in fact, the prostate is unusually small for a man of this age. There has probably been abscess of this gland, and loss of its substance. Hence, there is no point of support either for the bladder or for the bowel, and, as a result, the relaxed rectum comes down with great ease.

Original Articles.

A DISSECTING MESENTERIC ANEURISM.[1]

BY E. N. WHITTIER, M.D.,
Assistant Professor, Clinical Medicine, Harvard Medical School; Visiting Physician, Massachusetts General Hospital.

IT is my privilege to present a case, exceptionally complete, in demonstration of the subject of this paper: A. B., male, twenty-one years of age, entered the Massachusetts General Hospital early in October, 1886, remained in the Hospital six-and-a-half months, and died there, and the report of the autopsy by Professor Fitz establishes the diagnosis, as given above.

What might well be called the pathological career of this patient began four years before he came under my care, was somewhat marked between the years 1882 and 1886, but became continuous and progressive from the date of his admission to the Hospital until his death.

The family history was good. There was neither specific taint nor alcoholic habit. In 1882, he had two attacks of rheumatic fever of marked severity. From their immediate effects, he enjoyed singular immunity; but, in July, 1886, while on his vacation, and among the mountains, making prolonged and violent over-exertion, there were well-defined indications of circulatory disturbances — vertigo, palpitation, dyspnœa, occasional orthopnœa, cough, with bloody expectoration, and functional disorders of digestion, with loss of weight, strength, and color.

The earlier Hospital examinations proved the existence of great cardiac enlargement, with well-marked cervical pulsations, extreme distinctness of arterial movements in all the superficial arteries, and the "tone" in radials, crurals, and tibials associated with

[1] Read before the Boston Society for Medical Observation, October 3, 1887.

incompetence of the aortic valves; there was, also, to be felt the hammer-pulse, less than is usually accepted as diagnostic, rendered less by the weakness of the heart's action, and strengthening the opinion formed by those observing the patient, that the limit of cardiac compensation had been nearly reached. The hands and feet were cold, the face was dusky, the lips were cyanotic, there was much dyspnœa, and great weakness. The temperature was irregular and somewhat elevated, and, for the first two weeks, resembled that seen in mild typhoid, tuberculosis, the lower grades of septic infection, as well as in pernicious anæmia and pseudo-leukæmia. In the third week, occurred the first of a series of phenomena which made this case noteworthy. The records describe joint-pains, with redness and swelling of the elbows, wrists and hands, knees and ankles, controlled by salicin. At first, no change was observed in the character or quality of the heart-murmurs noticed on entrance, but, with increasing cardiac disturbance and præcordial distress, an endocardial murmur developed. This was heard best over the dilated ventricle, was loud and harsh over the aortic area, and was propagated upwards. Between the middle of October and the 10th of November, there were three separate attacks of joint inflammation, and a constant increase in the evidences of concurrent endocarditis.

November 10th. The record states that, during the night, the patient was seized with severe pain in præcordial region and left hypochondrium, quickly collapsed, and was with great difficulty revived. The next morning, temperature was 96.5° (102° previous evening), the pulse was 130, and respiration 40.

Thirty-six hours later, a similar outbreak of pain was recorded, with like effects.

November 12th. The urine was bloody, albuminous, and contained casts. There was vomiting. The condition of the patient was extreme. Hands and feet were cold, pulse varying from 120 to 140, and there was great pallor.

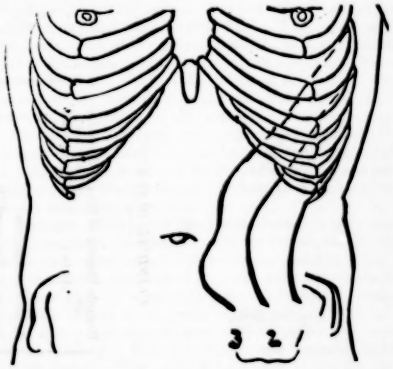
The heart's apex was found to have been displaced upwards from the sixth to the third interspace, on left side, and dulness merging into flatness extended from the sixth rib, axillary region, down through left hypochondrium and left lumbar region, nearly to crest of ilium, and transversely almost to the umbilicus, while, from the lower margin of rib, on left side to crest of ilium, and quite to median line in umbilical region, a firm, resisting body, regular in outline and surface, and tender on pressure, could be mapped out by palpation.

But slight change was noted for several days, when it was recorded that the skin was sallow or yellowish in hue, suggesting absorption of blood-coloring matter; and, on the same day, mention is made of return of severe pain, this time in left side, midway between ribs and crest of ilium. This pain was quickly followed by an increase in the size of the tumor, with diminished respiratory movements of left chest, dulness, on percussion, through whole left front, and deficient respiration-sounds; the position of the heart's apex was as before, on the upper margin of fourth rib, mammary line.

The length of this paper forbids detailed description of each outbreak, for they were numerous, each characterized by similar features, and every interval marked by subsidence of the tumor, its contents slowly ebbing, as if by absorption, or rapidly increasing, as by blood escaping into a cavity limited by retaining walls.

Mention should, however, be made in the report that, from November 10th to February 27th, there were six painful paroxysms, characterized, as already described, by severe constitutional symptoms and the development of an abdominal tumor, or the increase in size of one previously developed, but subsequently diminishing, until, in the latter part of February, the attacks of pain were nearly every day, and the sign and position of the tumor quite constant.

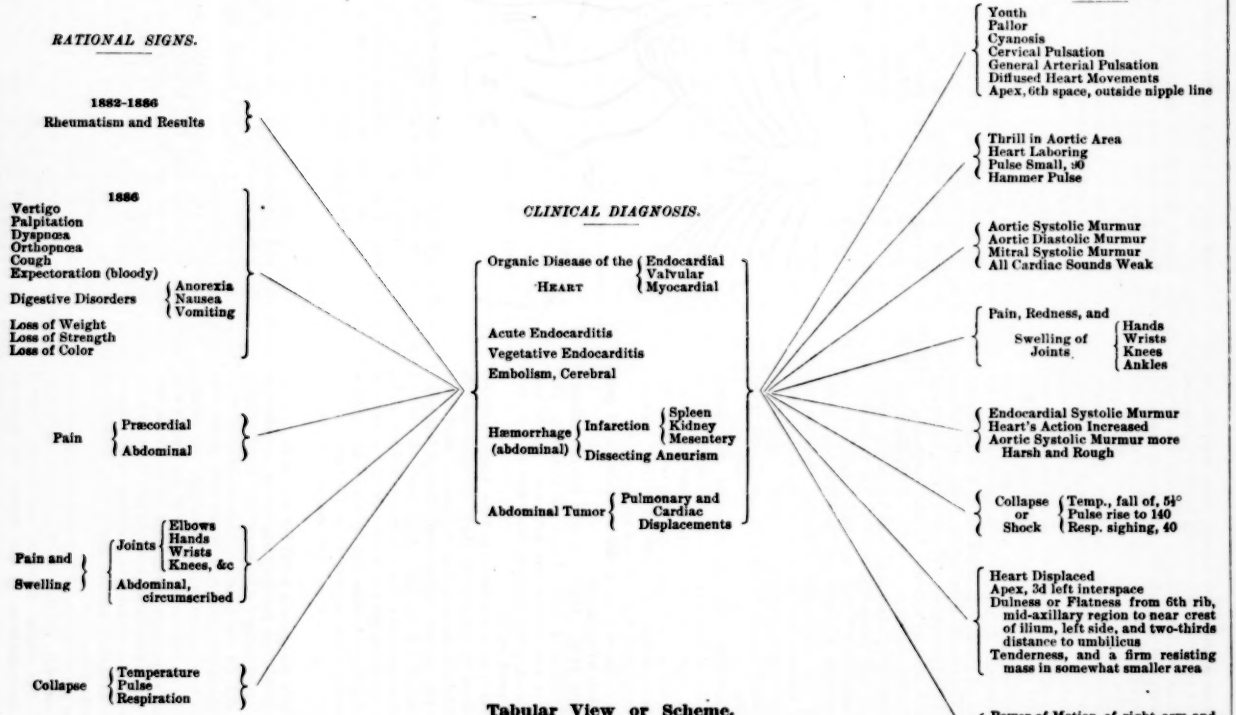
On March 8th, at the time of the morning visit, the patient was found to be articulating with difficulty, tongue protruded to right side, and motion of right arm and leg greatly impaired. Partial recovery from this took place quite quickly. During the rest of March and the early part of April, there was gradual failure of all powers, and the patient died on the 15th of April, after a few hours of semi-coma, in which there were strongly-marked evidences of great circulatory embarrassment.



I avail myself of the opportunity presented by this case, to ask your consideration of a plan or scheme of study with reference to greater accuracy in diagnosis.

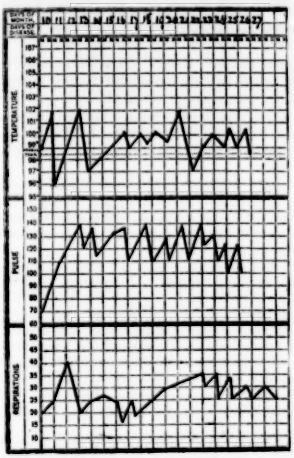
The plan which I have pleasure in placing before you readily explains itself, in the tabular view of symptoms arranged as rational and physical signs, and grouped in the order of diagnostic values. It is analogous to the methods of analysis adopted by the most accomplished clinicians, and although susceptible of modification and improvement (for the art of discriminating disease is progressive), I believe it can be confidently appealed to as a safe and reliable guide to reach desired conclusions.

"The study of any complicated subject tends of necessity to its arrangement into branches; closely connected as these are and forming always part of a whole, they are not only capable of distinct treatment, but frequently become more intelligible as they are so treated." I know of nothing to which this axiom is more applicable than to the analysis of the complex phenomena of disease, and it is with full confidence that it will receive your commendation that I lay before you the accompanying diagram as a study of the subjective and objective signs or symptoms found in the case reported this evening.



Tabular View or Scheme.

Subjective and Objective Symptoms.



Dr. Fitz kindly consents to the use of the report of the autopsy in connection with the clinical history of the case.

AUTOPSY SEVENTEEN HOURS AFTER DEATH, BY PROFESSOR R. H. FITZ, M.D.

Body much emaciated; skin and lips unusually pale, right elbow and hand swollen, feet strongly flexed, slight rigor mortis.

Head. Not opened.

Pericardium. Contains half-pint clear yellowish fluid.

Heart. Nearly twice the usual size; apex broad and round, formed by the left ventricle. Sub-pericardial tissue gelatinous. Aortic valves did not hold water, pulmonary valve sufficient, the mitral admitted two fingers, the tricuspid four, the right side of the heart widely distended with a differentiated clot, the left ventricle also contained considerable dark clotted blood. The aortic crescents, thickened, moderately retracted, covered with numerous opaque, white, moderately firm adherent excrescences. The anterior crescent torn through. The aorta just above the valve showed similar excrescences, others were found attached to the parietal endocardium, below the crescents also near the free edge of the aortic curtain of the and mitral valve, projecting from each surface. The anterior sinus of Varsalva was dilated into a pouch as large as a cherry-stone, a smaller pouch was found in an adjoining sinus, its intima opaque and corrugated; no other abnormal appearance observed in other valves. Both ventricles, especially the left, dilated, the wall of the latter moderately thickened. The posterior wall showed numerous patches of fibrous thickening, and occasional spots of ischæmic necrosis. The branches of the coronary artery leading to these parts contained emboli, the largest of which were of the size of a grape-seed and resembled in color and consistency the vegetations attached to the aortic valves.

Left Pleural Cavity wholly obliterated by old adhesions. Pleura not remarkably thickened. Occasional dense and firm pleural adhesions on the right side.

Lungs. Both lungs extensively œdematous, and moderately infiltrated with solid material producing a reddish-gray color, with smooth surface. In the right pleural cavity was a pint of clear yellow fluid.

Spleen. The spleen was nearly doubled in size, somewhat softer than normal and pale in color. A more or less wedge-shaped nodule of reddish color, as large as a walnut, extended from the surface of the spleen towards the centre near the upper third of the organ; another smaller and similar nodule was found near the lower border; on section the structure of the spleen was readily made out.

In the region of the left kidney was a renal-shaped sub-peritoneal tumor 9 x 6 x 4 inches. It was soft, some fluctuating and was composed of clotted blood in part discolored and laminated, in part of a dirty red color and of homogeneous consistency. The mass lay upon the kidney and was crossed by the descending colon. Further examination shows by dissection the mesentery two aneurisms near the intestinal attachment. The upper was of the size of a small cherry and had a thick wall. The lower was the hæmatoma previously described, and was filled with a thrombus: The walls of the aneurism were relatively thin. Further dissection of the wall of the peri-nephritic hæmatoma showed that the former were wholly outside of the kidney, which was very much flattened, the wall was quite dense towards the kidney, the absence of any evidence of the supra-renal capsule, and the discovery of the mesenteric aneurism suggests that the peri-nephritic hæmatoma may have been a dissecting aneurism.

Kidneys. The left kidney was flattened, pale and gray, the outer two-thirds lost in the tumor, the pelvis and calices were considerably dilated, and the ureter was shrunken, diminished in size, perhaps one-half, and imbedded in somewhat indurated fibrous tissue, from the kidney to the brim of the pelvis. The left renal artery and vein showed nothing abnormal outside the kidney. The left supra-renal capsule could not be found. The right kidney was somewhat enlarged, of a pale gray color, the capsule readily detached. On section, nothing abnormal noticed with the exception of a cheesy patch of necrosis at the bottom of a scar seen upon the surface.

Bladder. Showed nothing abnormal.

Liver. Not particularly altered in size, was of a purple color; on section the lobules were distinct, the central portions unusually voluminous and of a reddish-brown color.

Stomach. Contracted, its mucous membrane thickened and opaque, besmeared with a moderate quantity of thick gray mucus.

Intestines. The small intestine showed nothing abnormal. In the lower part of the large intestine were numerous, slightly elevated opaque linear adherent patches surrounded by an injected margin.

Mesentery. In the mesentery were found a dark reddish-gray homogeneous nodule as large as a cherry.

PATHOLOGICAL DIAGNOSIS.

Chronic Aortic Endocarditis.
Valvular Disease.
Chronic Myocarditis.
Hypertrophy and Dilatation.
Acute Vegetative Endocarditis.

Embolism of { Coronary Artery. / Spleen. / Kidney.
Ischæmic Necrosis of { Spleen. / Kidney.
Aneurism of Mesenteric Artery.
Perinephritic Hæmatoma, — aneurismal (?).
Chronic Adhesive Pleurisy.
Desquamative Pneumonia.
Diphtheritic Colitis.

SYMPTOMS FOLLOWING INJURY TO THE HEAD AND BACK.[1]

BY E. S. BOLAND, M.D.

FEBRUARY 3, 1886, I was asked by an acquaintance to see his sister, who had been hurt seventeen months before by being thrown from the platform of a car, and falling some distance down an embankment. I was told that she had brought suit against the railroad company, and had won her suit, but the defendants had talked of appealing, so there was every prospect of delay and uncertainty as to compensation, with the added worry of attendance on court, medical examinations, and expense which they could ill afford.

The bearing of these facts on the case is evident. On calling, I found a large, fleshy woman, who seemed quite weak, not over communicative, evidently suffering, and possibly apathetic. She lay on a sofa in her room in a boarding-house, her right shoe was unbuttoned on account of the swelling of her foot, and her clothing exhaled a urinous smell — not ammoniacal. On being aroused and told who I was, by dint of questioning, the following history was obtained:

Age, forty-five. Born in Maine; married. Has one daughter, now sixteen years of age, and in vigorous health. The patient is one of a family consisting of three or four sisters and two brothers. With the exception of one sister, who was hurt at the same time with the patient, and another who has cancer, the family are healthy. Patient's father died about the age of fifty, of some acute disorder. Her mother is living and active, though eighty. One of her grandparents lived to be more than one hundred. Says she has always been strong and healthy. Menses began at seventeen, and were regular and painless. Says she left home, when quite young, to earn her own living, as her family were in reduced circumstances. Did housework in private families and hotels, worked as a factory-girl some, and later, since her marriage, as a seamstress at home at times. Tells me that she was never nervous, and never fainted but once, and gave an adequate reason for that. Has weighed one hundred and ninety pounds, and now cannot be far from one hundred and sixty pounds. Does not look like a nervous woman. After a year's acquaintance, I regard her as an honest, even-tempered, unambitious woman, strictly temperate, industrious, and willing to enjoy life as it comes. Education limited.

She tells me that in October, 1884, she was about to step from a railroad car, having reached her destination, when the train started up, and she fell, or was thrown, down an embankment, the car having already passed the outer end of the station-platform. Believes she struck on the right side of her head, and also on her back, and was stunned, but was able, with assistance, to walk to the omnibus, which took her to the house of her sister. She says she remembers nothing from the moment she found herself falling until three hours after, when she came to herself, and found herself in bed. Says the fall was about fifteen feet. Here she was seen by Dr. ——, who, in answer to some inquiries, favors me with this letter:

——, February 9, 1887.

DEAR DOCTOR,— Yours at hand. I saw Mrs. X. about 9.30 P. M., after the accident. She was not unconscious, but complained bitterly of pain in the side of her head, and in the lumbar region of back.

There was no scalp wound or contusion, but the back was quite severely bruised. Complained of headache and dizziness all of the time I cared for her. The back was better at times, but never wholly easy and painless during the six weeks. There was no rise of temperature.

She was confined to bed most of the time for six weeks, because of weakness of the back and inability to stand or sit erect, as it made her nauseated. Her stomach was rebellious, and very intractable to treatment. The bowels were irregular, and the stools were bloody and painful at times.

The urine was scanty, and loaded with phosphates and bile pigment, but contained no albumen or sugar. Menstruation was irregular and painful. Said she was always free from pain and regular before injury. Had some leucorrhœa; none before. There were no bed-sores. She complained a great deal of loss of vision and hearing; at times, stated that all objects were yellow, and at other times, black. At that time, she was very much jaundiced. Sometimes lower extremities were cold. I never felt for a moment that she was assuming any aches or pains for the benefits that she might derive from the railroad company. Her case, I think, was at the time, and since has been obscure in many respects, as far as I have been able to learn. I wish I were able to give you more facts, instead of the few that I have to offer.

I remain yours sincerely, —— ——.

P. S. Am sorry to say that I did not examine her uterus.

She says she remained here almost two months, most of which time was spent in bed, amid much suffering and generally deranged health. Wet and soiled herself at times, ate little, and, when she was able to sit up, she could not stand or walk without assistance. Going down to her home in Maine, she remained there about a year. In January, 1886, she came to Boston to attend to her suit against the railroad. While in Maine, she was under the care of a local practitioner. He treated her for her back pains locally, and gave more or less general treatment, but, she says, with little apparent benefit. Whether he recognized the general anæsthesia and impairment of the special senses is uncertain. During this year, she left her room but twice.

On returning to Boston, she was examined by experts, both for herself and the defendants. The two medical men under whose care she had been since the injury were also summoned. Just what was claimed or what was proven I have never learned, other than that she won her case. I was told the railroad company talked of carrying the case to another court, and rather than endure another trial, a compromise was finally affected at a smaller sum than the court awarded. She complained much of the circumstances of the examination by the experts, the excitement and efforts incident to the trial, and was, I believe, temporarily

[1] Read at a meeting of the Boston Medico-Psychological Society, March 17, 1887.

made worse by them. It was a few days later when I first saw her.

When, in February, 1886, she came under my care, she made the following statements to me:

That she has never been well since the injury, having changed from an active, healthy woman, who made her own living and enjoyed life well, to a comparatively helpless invalid. That her menses are irregular and painful. That she cannot see nor hear well, and cannot taste nor smell at all. Cannot feel heat, cold, nor touch. That her appetite has been very poor till lately, and that she has lost flesh. That she has and does suffer from irregular periodical pains in her back and head. That she occasionally has "bleeding from up in her head," which, when it occurs, as it usually does, at night, runs down her throat, to nauseate her when she awakes. That she sees double with her right eye, but not with her left. She further states, in answer to leading questions, that she has not sneezed, had hiccough, or a "natural headache" for months. That she cannot hold her urine well — must go at once, and wets her clothing when she coughs. Says she sleeps poorly, and thinks her memory is impaired. (Subsequent observation, in so far as memory for events since the injury goes, confirms this statement.) Says her hair has been turning since the injury, though it is still strong and abundant. Says she does not know where her hands or feet are. Has to *look* for her pocket, and cannot, with her eyes shut, tell when her hand touches her nose.

Together with one of our members, who saw her in consultation, I made the following observations:

Cutaneous Surface. Does not feel pricking or pinching her skin anywhere, except on the neck, upper eyelids, and lips. Does not feel pulling the hair on the scalp, legs, or eyebrows. Does not know that her feet are quite cold. Does not feel the direct current from a Gaiffe faradic battery at all, and can feel the induced current only on the neck, distribution of the left ulnar nerve, on the end of the nose, and on the right cheek, when the electrode is over a tooth with metallic filling.

Muscular System. Grasp quite weak in both hands. Muscular efforts all slow and feeble. Gets on her feet with apparent effort, and walks on the level floor in a very unsteady way, and then only by the help of a chair or somebody's help. Extension and flexion of the feet very slow and feeble. Cannot stand with eyes either open or shut, unless supported. No ankle clonus. Knee-jerk short and delayed. No muscular reaction to the faradic current, either direct or induced. (The galvanic current was not tried till later.)

Eyes. No ptosis, squint, or disorder of the muscular apparatus. Conjunctival injection to a slight amount after the tests, or much use of the eyes. Pupils equal, normal in size; react to accommodation, but not very energetically to light, as ophthalmoscopic examination is easily made without a mydriatic. Media clear; no gross change in papillæ or vessels. Field of vision somewhat diminished in left eye, and very much contracted in the right eye. Can read Snellen XX at two feet with left eye, and cannot name the letters at all at any distance with right eye. Sees two fingers at six inches as four, and one finger as two, in the right eye. Sees floating specks in right eye, but not in the left. Has never used glasses. Was conscious of no failure of sight, or unequal power of eyes, before her injury.

Taste. Cannot taste the fresh juice of a lemon on either side of her tongue, nor did she taste the solution of strychnia sulphate, though given $\frac{1}{15}$ gr. dose to the tablespoonful, until she had been under treatment for thirty-seven days. Says she does not relish her food, because she does not taste it.

Digestive Tract. Tongue slightly coated. Occasionally, vomiting after the pharangeal hæmorrhages. Bowels obstinately constipated.

Ears. Both ears normal as to meatus and drumhead. The left alone inflates (is felt to inflate) by Valsalva's method. Can hear the watch only while in contact with the right ear. Hears the watch at four inches in the left. Hears ordinary conversation without difficulty.

Olfactories. Cannot, in either nostril, smell orange or lemon peel, cologne, or chloroform liniment.

Bladder and Kidneys. Control over bladder imperfect. Urgent and intolerant when partly filled. Never retention. Urine increased in amount; acid, pale, clear; specific gravity, 1010. No bile, sugar, or albumen. No deviation from the normal constituents. Negative microscopically. Pulse 80 to 90, temperature normal. Heart and lungs sound. Fortunately, we were not urged for a diagnosis. A very uncertain prognosis was given, and only rational, energetic treatment promised.

Treatment. At the suggestion of the consultant, general faradization, blistering the upper dorsal spine, and compound syr. hypophosphites, with solution of sulphate of strychnia, was given, and persisted in, with some variations or additions, for about three months. One week after beginning treatment, massage was added to the other treatment. This was given once a day thoroughly, and usually repeated to some extent by her daughter in the evening. Occasionally, $\frac{1}{4}$ gr. morphine had to be given for the pains. Cathartics were used as needed. After six weeks' treatment, when, with returning feeling, pains began to be felt in the limbs, the constant current, from eighteen to twenty-four cells of a McIntosh galvanic battery, were used, on alternate days, with the faradic current.

Progress. I shall quote from the notes taken almost daily while under treatment:

February 13th. She began to feel the induced current over the anterior tibial nerves.

February 16th. Double vision disappeared from the right eye; otherwise, but little change in the special senses. Left hand the stronger and more sensitive. In fact, the entire left side was less severely affected, and began to improve sooner than the right.

March 10th. Much more muscular response to the induced current, and she feels it more. Sleeps poorly. Menses more prompt since the electrical treatment was begun. Neither massage nor electricity, however, seemed to help her constipation, and cathartics had to be given continuously.

March 14th. Combed her hair for the first time.

March 16th. Began to use a modified, combined chest-weight and rowing apparatus, which admitted of a stirrup movement. The first attempts were feeble and awkward. Up to this time, some active movements on her part had been comprised in the massage.

March 17th. Tasted the solution of strychnine for the first time to-day, the dose being about $\frac{1}{15}$ gr. in a tablespoonful of water.

March 22d. Was given special deep manipulations

over the great nerve-trunks. Can hear the watch one inch from her right ear. Grows more hopeful, as she begins to see improvement.

March 23d. The constant current used for the first time. Fair response on the left side, and some response on the right, on making and breaking the circuit. Feels deep manipulations over the median, sciatic, and perineal nerve-trunks. As the strychnine had now reached about $\frac{1}{4}$ gr. in all daily, some stiffness of the jaw was felt, and the amount reduced to $\frac{1}{10}$ gr. daily. Has got rid of the urinous smell, and does not now lose control of her bladder, except when she coughs.

March 25th. Can walk a little without support, and has attempted some light household work.

April 1st. Is doing well. Gains in strength and sensation.

April 5th. Felt that her left foot was cold to-day for the first time. Notices the smell of tobacco smoke and tastes and relishes her food. Felt her "head itch" to-day and can feel the compass points on the scalp, except for a space corresponding with the parietal bones, though not quite so wide from before backward.

April 11th. Complained of the blister over her dorsal spine — heretofore she has not felt the blistering. Abdomen still anæsthetic to touch, but feels the faradic current. Can hear the watch at four inches in the right ear. Reads Snellen XX at ten inches with right eye. Can go up and down stairs by the hand-rail and the use of her cane. Rides out, but is easily tired.

May 1st. Pharyngeal hæmorrhages recur every week or two. Sneezed to-day, the first time for many months, she says. Left side so much better, both as to motion and sensation, that from this time on most attention as to massage, electricity and exercise shall be given to the right side.

May 6th. Walked six squares to-day, by taking hold of her daughter's arm. Tired out, but none the less elated in consequence.

May 8th. Right ankle weak, and she begins to complain of pain in the region of the os calcis and up the tendo-Achilles. The space between the tendo-Achilles and ankle-joint is tender on pressure and pains when dorsal flexion of the foot is attempted. Prefers to walk on her right toes. Reads Snellen XX at twenty inches with right eye, and hears the watch at ten inches in right ear.

May 13th. Felt me tickle the sole of her left foot to-day for the first time. Has severe pains in her back, and being unwell suffered more than usual.

May 16th. Rode eighteen miles in a carriage to-day. Tired out.

May 18th. Can read Snellen XX at *six feet*, with right eye, and hears the watch in right ear at twelve inches.

May 21st. Walked six squares again yesterday. The right side of face, right hand and arm, right leg below the knee, and foot still below par as to strength and sensation. Cannot distinguish the compass points on right hand nearer than one and three-fourth inches except on ring and little finger. Can feel a single point quite distinctly. Right cheek and brow cannot feel the points nearer than one and one-half inches. Left side almost normal as to strength and sensation. Left sole ticklish but the ribs not ticklish. Does not feel distinctly on ribs near spine. Sight and hearing on left side normal.

At this date she left Boston for Maine, and the treatment which for the previous hundred days had been daily and as thorough as I could give, became imperfect or irregular. Shortly after she returned and settled near Boston. Since this time I saw her only at irregular intervals, going two or three times into the country, and treating her for three or four days at a time when she would come to Boston. Have not seen her since November 30, 1886. Ever since last summer the right ankle has been weak and painful and has not fully regained sensation. It has been treated by friction, electricity, elastic compression, bandaging, position, and more lately with a fixed dressing of silicate of potash; the latter being still in use and gives more relief than any other measure. There are still some back and head pains and an occasional pharyngeal hæmorrhage. Hydrastis, fluid extract ergot, iodide of potash and Fellow's syrup hypophosphites compound, have all been tried — the latter seeming to give the best results — probably from the contained quinine and strychnine. She has used a Hall's faradic battery at home, but probably not very efficiently. Sometimes after an interval an examination would not give as good a result as at a former period.

It is hardly necessary to refer to the diverse views held as to these cases of functional trouble following railroad injury. Though the literature is abundant, the pathology, so far as ascertained, is scanty and unsatisfactory.

To Erichsen probably, more than to any one else must we ascribe the credit — if credit it is — of having popularized the idea that grave and lasting injury may be sustained by the spinal cord from slight railroad and other accidents, which are not accompanied by visible injury. He says: "Not only do most serious, progressive, and persistent symptoms of concussion of the spinal cord often develop themselves after apparently slight injuries, but frequently when there is no sign whatever of external injury."

Ross takes practically the same ground and admits further that "violent mental excitement appears to be able to produce the symptoms of spinal concussion occasionally." Herbert W. Page, in his late book on "Injuries of the Spine and Spinal Cord," questions these positions, and argues for the existence of mechanical lesion somewhere in the cerebro-spinal axes, or surrounding structures, except in the cases where there is intentional fraud, or merely functional disturbance.

Dr. R. M. Hodges, in this country, has done much to bring about a vigorous skepticism of the views of Erichsen.

Was this a case of "railroad spine"? Remember it was not the result of a collision. It might have been due to a fall from a carriage, stairway or landing. As the car was just starting and the motion at most being at right angles to her fall it could not have given her much impetus. As the fall was less than sixteen feet, it would occupy a little less than a second. This would be about equal to ten miles an hour.

The case had this in common with ordinary collision accidents; namely, the liability of the railroad for damages. There was, therefore, the possibility of assumed or exaggerated injuries. This, I kept in mind and

tried to be impartial and discriminating. In favor of entire veracity were the facts that the suit had gone in her favor and there was less occasion for maintaining an assumed condition of invalidism. Besides, the examinations were distasteful and the treatment exacting and expensive. Still a clever and practised imposter could give the same results as to sight, hearing, muscular strength, smell, taste, pains, and to some extent to the electrical tests. The suppression of the normal response to the faradic current could not well be assumed, nor is it probable that the induced current could be taken on face and arms without the patient evincing suffering.

That she was severely injured, suffered much, improved under treatment and is still far from well, I believe as firmly as I do the Apostles' creed, but must confess I could as little prove one as the other by incontestable evidence. The fact that she made more improvement in three months following the settlement of her claim than in a year previous does not impugn her honesty. Who does not admit the therapeutic value of satisfaction and certainty? No doubt the electricity and massage were factors in her improvement.

Page says: "Even in perfectly genuine cases — and it is these to which we now refer — compensation acts as a potent element in retarding convalescence, as evidenced in numberless instances by the speed with which recovery sets in as soon as the settlement of pecuniary claim has been accomplished."

Dr. R. M. Hodges is more guarded: "Recovery or improvement of a fixed and permanent character, never takes place until after the adjustment of any existing claim for compensation; and so long as this is final it makes little difference whether the settlement is a favorable or unfavorable one for the claimant."

In this case is it probable that the seat of the injury was cerebral rather than spinal? In such cases, Gowers admits that such a condition is probable.

There was functional disorder of the spinal nerves as to motion and sensation, there was spontaneous pain and tenderness to deep pressure; but there was no complete paralysis, contracture or trophic change (unless the swelling of the right foot and ankle be so regarded), at most there was suspended action.

That the spinal column, with its seventy-two joints — not to mention the rib articulations — its complicated and various structures should endure such a fall without receiving some wrench, strain or fibrillary rupture does not seem probable; but that such wrench, strain or rupture induced trauma of the *cord* or led to hæmorrhagic pressure, or subsequent inflammatory changes is not shown by the clinical history. If any one will recall the situation of the spinal cord surrounded by the pia and suspended in the fluid-filled dural sheath and this loosely attached to the walls of the firm but flexible spinal canal it seems hard to believe that so small a mass of matter, so perfectly situated, could suffer from "vibratory jar," sufficient to induce molecular change. How different it is from the brain when there is great mass and little packing. As to the immediate visceral disturbances mentioned in the doctor's letter — vomiting, jaundice, intestinal hæmorrhages, etc. — we are not now concerned, though the vomiting might indicate head trouble. Injury to the cord in the cerebro-spinal region might explain the amblyopia, but how would any merely spinal lesion account for the auditory, olfactory, gustatory or trygeminal symptoms? The unilocular diplopia, which had every appearance of being genuine, must in the absence of apparent defect in the media be regarded as central.

If the trouble was cerebral, what and where was the lesion?

REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M.D.

ANILINE POISONING.

F. Muller[1] found free aniline in the urine of a person poisoned with aniline; the urine reduced Fehling's solution, but had no action on polarized light. Each 100 cc. of urine contained 4.75 mgrms. of free sulphuric acid, and 76.1 mgrms. of combined sulphuric acid. When a portion of the urine was boiled with concentrated hydrochloric acid, neutralized with sodium hydrate and shaken with ether, an ethereal extract was obtained, which gave, when tested, the blue indophenol reaction. The ether extract of the unboiled urine did not give this reaction; consequently the aniline must have been secreted as paramidophenyl sulphate. The striking resemblance which patients treated with acetanilide show to persons poisoned with aniline, led the author to compare the urine in the two cases. In both cases methæmoglobin was found in the blood. Aniline was not found in the urine after the ingestion of acetanilide, but the indophenol reaction was obtained. There was also a noticeable increase in the amount of combined sulphuric acid. From this the author concludes that acetanilide is separated from the system in the same form as aniline; namely, as paramidophenyl sulphate. The latter may be detected by boiling the urine a few moments with one-fourth its volume of concentrated hydrochloric acid, adding a few cubic centimetres of a three per cent. phenol solution, and then a few drops of a chromic acid solution. If paramidophenol is present, the liquid becomes red, and then changes to blue upon addition of ammonia.

COLCHICINE.

Experiments made by Mairet and Combemale[2] on dogs and cats, show that colchicine is an irritant poison which may act upon all the organs, but acts especially on the intestinal canal and kidneys. The minimum toxic dose is variable, according as it is administered hypodermically or introduced into the stomach. In the former case it is 0.571 milligram, in the latter 1.25 milligram for each kilogram weight of the animal experimented upon. Its effects are produced more rapidly when it is administered hypodermically. It is eliminated through different channels, but especially with the urine; but elimination is slow, and colchicine may therefore behave as a cumulative poison if administered in non-poisonous and relatively small doses at short intervals. Colchicine produces congestion at the articulations and in the marrow of the bones.

Experiments on men, dogs, and cats,[3] show that colchicine in therapeutic doses acts either as a diuretic or a purgative, according to the dose, and this action

[1] Chemisches Centralblatt, 1887, 8, page 193.
[2] Journal de Pharmacie et de Chimie, April, 1887, page 355.
[3] Ibid. p. 357.

is a result of irritation of the kidneys or alimentary canal. The therapeutic effects are the same, whether the drug is administered hypodermically or by the mouth; but the action is more rapid in the former case, and the dose necessary to produce the effect is less. Man is three times more sensitive to its action than are cats and dogs. A dose of two or three milligrams is sufficient to produce the diuretic action, and five milligrams the purgative action. Colchicine causes an increase in the amount of uric acid excreted.

ANTIDOTES TO STRYCHNINE, RESORCINE AND PICROTOXINE.

Professor Anrep [4] has proven experimentally that urethane possesses properties antagonistic to the convulsive drugs, such as strychnine, etc., and believes that urethane may be employed in cases of poisoning by these substances. It is superior for this purpose to hydrate of chloral; it is less dangerous, and may be administered in large doses with perfect safety. The author concludes that, in the case of man, it is necessary to administer it in doses of four to six grams as an antidote to the poisons above mentioned.

E. Koch [5] states that butylchloral hydrate is useless as an antidote in cases of strychnine-poisoning: in picrotoxine-poisoning, it fails to overcome three times the minimum fatal dose, behaving in this respect like chloral-hydrate. Picrotoxine may be successfully used as an antidote to the narcotic effects of butylchloral hydrate and chloral hydrate. According to A. Bockal [6] paraldehyde is a powerful antidote to strychnine. Ten times the fatal dose of strychnine may be safely administered to dogs that have previously received paraldehyde. Strychnine is not, however, an antidote to paraldehyde.

ESTIMATION OF STRYCHNINE AND BRUCINE.

Holst and Beckurts [7] have based a volumetric method on Dunstan and Short's observation that strychnine is completely precipitated from aqueous solution of its sulphate, whilst brucine is not. If a 0.5 to 1 per cent. solution of the two alkaloids, strongly acidified with hydrochloric acid, is treated with potassium ferrocyanide until a filtered portion of the solution gives a blue stain with ferric chloride paper, the whole of the strychnine is precipitated as acid strychnine ferrocyanide, whilst the brucine remains in solution.

The amount of strychnine can thus be determined by using a standard solution of ferrocyanide, 244 parts potassium ferrocyanide corresponding to 334 parts of strychnine. If the solution contain less than 0.5 per cent. the separation is too slow; also the ferric chloride paper should not be allowed to get perfectly dry before use. A mixture containing 0.145 gram strychnine and 0.036 gram brucine gave 0.148 gram of strychnine. To estimate the alkaloids when occurring together, the total weight of the two is ascertained, then, according to Schweissinger, an excess of centinormal hydrochloric acid is added and the excess determined by centinormal soda solution. The neutral solution thus obtained is concentrated sufficiently and titrated with standard potassium ferrocyanide. A mixture containing 0.1 gram strychnine, and 0.05 gram brucine gave 0.1017 of the former and 0.04915 of the latter.

[4] Journal de Pharmacie et de Chimie, May, 1887, page 505.
[5] Chemisches Centralblatt, 1886, page 811.
[6] Ibid, 1886, page 622.
[7] Journal of the Chemical Society, London, September, 1887, page 853, from Archiv der Pharmacie.

THE ACTION OF TOBACCO.

Observations by Grammatschicow [8] and Ossendowski have led to the following conclusions: The assimilation of nitrogenous matter is lessened. Digestion is prolonged. The consumption of tobacco hastens the assimilation and elimination of potassium iodide. The influence of tobacco on the processes of nutrition and assimilation is especially noticeable in those just commencing its use.

Walitzkaja [9] has made an examination of more than one thousand workers (men, women and children) in tobacco, and has in addition undertaken a series of experiments on animals in the laboratory of Prof. Anrep. The workmen who are constantly exposed to an atmosphere filled with the powder of tobacco, suffered chiefly from nervous symptoms; such as dilatation of the pupils; cardiac neuroses; exaggerated tendon and vasomotor reflexes; trembling of the hands; dyspnœa. They are subject to headache, attacks of fainting, gastralgia, and cramps. Next to the nervous system the respiratory organs suffer most frequently. Bronchial and laryngeal catarrh and empysema of the lungs are common. Phthisis does not appear to be frequent.

Experiments upon dogs and rabbits clearly established the fact, that the nervous troubles observed in the workmen are really due to tobacco. The symptoms of poisoning are the same after injection of nicotine, as after exposure to an atmosphere impregnated with tobacco; and these symptoms are identical with those observed in workmen.

PHOSPHORUS.

Poleck [10] reports a case of phosphorus-poisoning, in which phosphorous acid was detected in the contents of the stomach and intestines, and in the heart, liver, kidneys, and brain, three months after death. No free phosphorus could be detected.

INFLUENCE OF POTASSIUM IODIDE UPON THE ELIMINATION OF MERCURY.

According to Dr. Souchow,[11] the elimination of mercury commences later, and the quantity eliminated is relatively less in those cases in which the patient takes potassium iodide in conjunction with the mercurial preparation. If the iodide is administered during or after the mercurial course, the quantity of mercury eliminated daily is lessened. The iodide, therefore, appears to prevent the elimination of mercury, instead of hastening it, as has been believed by some, and would seem to be useless in cases of mercurial poisoning.

TIN.

Ungar and Bodländer [12] have already proven by experiments on dogs and rabbits that tin may be absorbed and detected in the organs and urine of these animals. They have also detected it in the urine of man in two cases. They have now made experiments to determine whether any injury to health can result from the introduction of tin into the system. The experiments were made upon frogs, rabbits, and dogs, and the compounds employed were stannous chloride, the tartrate of tin and sodium, and the acetate of tintriethyl, administered in part by way of the stomach,

[8] Journal de Pharmacie et de Chimie, Sept. 15, 1887, page 276.
[9] Ib d, p. 277.
[10] Archiv. der Pharmacie, March, 1887, p. 190.
[11] Journal de Pharmacie et de Chimie, April, 1887, p. 367.
[12] Chemisches Centralblatt, 1887, p. 644.

in part by subcutaneous injection. The results show that the introduction into the system, even of non-corrosive tin-salts, will produce morbid symptoms, and finally, death; also, that very minute amounts repeatedly introduced into the system gradually undermine the health, and frequently result in death. Small doses of the acetate of tin-triethyl are far more poisonous than the tartrate of tin and sodium. This conclusion agrees with that reached by White, and suggests the fact that the action of the former compound is not due to the metal alone, but to the compound as a whole. The introduction of this compound into the system is followed, first, by a series of primary symptoms, quickly disappearing, due to the action of the compound as a whole, followed, after some days, by a train of symptoms due to the action of the metal. The results of the authors' experiments lead them to the conclusion that the question of the poisonous action of the tin compounds, aside from any local effect, must be answered in the affirmative.

SILVER-ABSORPTION IN PLATE-WORKERS.[13]

Observations made on eight hundred silver-workers in Berlin have shown that all of them had the characteristic patches of coloration. These patches are round or oval in shape, varying in size from a millet-seed to a broad bean. As a rule, they are not raised; they are anæsthetic, and occur principally on the dorsum of the left hand. Only workers in silver are thus affected, and not those who manipulate gold or copper. The absorption of the metal seems to have no effect on the general health. Microscopical examination shows that the patches are caused by the deposit of metallic silver in the tissues, and they are soluble in nitric acid and potassium cyanide. It was noticed that the men affected were invariably those who had some ulceration or abrasion of the hands, through which the metal was absorbed. The nature and shape of the metallic deposit warrants the supposition that the metal enters in a soluble form, and is then precipitated. Three workmen who were being treated for syphilis with mercury developed a number of fresh stains in a comparatively short space of time.

THE FATE OF CERTAIN CHLORINE COMPOUNDS IN THE ORGANISM.

A. Kast[14] first gives some hitherto unpublished results of Mylius, showing the influence of the administration of chloroform on the amount of chlorine in the urine of the dog, from which it appears that the administration of chloroform is followed by a great increase of sodium chloride in the next day's urine. Kast has now pursued this research further. The effect of the inhalation of chloroform was first tried on a dog, and the increase of chlorides was found to be very marked after chloroform narcosis, whilst ether produces no effect. A similar result was obtained in experiments on man. Chloral was next investigated, and it was found to have no such effect in producing an increase in the chlorides of the urine; this substance leaves the body as urochloralic acid, and does not part with its chlorine. Similar investigations with carbon tetrachloride, methyl chloride, and ethyl dichloracetate also gave negative results; but ethyl trichloracetate, on the other hand, produced a very decided increase in the output of chlorides.

[13] The British Medical Journal, August 6, 1887, p. 321.
[14] Journal of the Chemical Society, London, June, 1887, p. 612, from Zeit. physiol. Chem., 11, 277.

SUGAR-REACTIONS.

With reference to the new reactions for sugar described by Molisch, D. Lindo[15] has found that a one per cent. starch or gum solution gives the reaction with thymol, as does also one part of cane-sugar in 200,000 of distilled water, and that all samples of normal human urine do so also, even when diluted with fifty volumes of water. He considers, however, that this fails to prove the presence of sugar in normal urine, which, as a complex fluid, must be acted on by the sulphuric acid. He finds that nitrates give the same characteristic color reactions and precipitates on dilution, and that similar results are obtained when menthol is substituted for thymol; menthol has also the advantage of not giving with nitrates or nitrites any reaction that could be mistaken for that of sugar. Chlorides or hydrochloric acid do not impair the delicacy of either test, but sugar cannot be detected by either, in the presence of notable quantities of nitrates or nitrites.

PECULIAR MODIFICATION OF UROBILIN.

Salkowski[16] has met with a urine which was extraordinarily rich in urobilin, but from which the urobilin completely disappeared after standing in a flask for some months, the urine, however, undergoing no perceptible change in color. The change did not depend upon alkaline fermentation of the urine, and micro-organisms apparently had nothing to do with it.

Urobilin is a body very easily decomposed, and it passes over, gradually upon standing, quickly upon heating, into a modification which is still colored, but which shows no absorption bands, which does not fluoresce in alkaline solution with zinc chloride, and which is not removed from acid alcoholic solution on shaking with chloroform.

It appears probable that those dark-yellow or brownish-yellow urines, which apparently contain urobilin, but in which neither urobilin (except, perhaps, in traces), hæmoglobin, methæmoglobin, nor biliary coloring matters can be detected, contain this decomposition product of urobilin. The author thinks it possible that most normal urines contain, together with urobilin, this modification of urobilin.

NEW PATHOLOGICAL URINARY COLORING MATTER.

Leube[17] reports the case of a patient suffering from osteo-malacia, cystitis, and nephritis, whose urine assumed a dark violet to black color on being exposed to the air. The coloring matter is amorphous, and soluble in ether, and can be extracted from the ethereal solution by dilute alkalies, but not by acids. The alkaline solution is, at first, brownish-red, later, yellow. The coloring matter is soluble in hot water, chloroform, benzol, and alcohol; the alkaline solution is decolorized by zinc-dust, and regains its color upon subsequent exposure to the air. Its solutions are not fluorescent, and do not show any characteristic absorption bands.

NEW NORMAL URINARY COLORING MATTER.

According to Giacosa,[18] the chromogen of a new urinary coloring matter occurs normally in the urine of man, dogs, and rabbits, from which it can be ex-

[15] Journal of the Chemical Society, London, August, 1887, p. 751, from Chemical News.
[16] Virchow's Archiv, 109, p. 361.
[17] Archiv der Pharmacie, 1887, p. 784.
[18] Archiv der Pharmacie, 1887, p. 785.

tracted by amyl alcohol, and precipitated in great part by basic lead acetate. Its solutions show no absorption bands, thus differing from solutions of the uroroscin of Neucki and Sieber. Solutions in ether and in chloroform show a beautiful green fluorescence; a solution in amyl alcohol is weakly fluorescent, one in ethyl alcohol not at all. A process is given for the extraction of this coloring matter from the urine.

CHANGES EFFECTED IN THE URINE BY A MILK DIET.

According to Chibret,[19] the amount of urea excreted daily is very largely increased under the influence of a milk diet. When the milk diet replaced wholly the ordinary mixed diet, the increase amounted to sixty per cent.; when the milk formed only a part of the diet, the increase amounted to thirty-five per cent. These statements are based upon the daily estimation of the urea excreted by two patients before, during, and after a milk diet of two months' duration, and a comparison of these results with those obtained from the urine of a person in health. As one of the patients, who was somewhat obese, lost flesh, while the other, who was thin, increased in weight, and the same results were obtained in the two cases, it is evident that the increase in the excretion of urea was not caused by denutrition.

C. Méhu [20] has frequently detected sugar in the urine of patients with albuminuria, who had been kept on a milk diet for a longer or shorter period. The quantity of sugar was ordinarily so small as to be easily overlooked in applying the ordinary Fehling's test. The amount present did not, as a rule, exceed 0.2 per cent., and only rarely amounted to 0.4 per cent. When the milk diet was suspended, the sugar gradually disappeared.

Similar results were obtained in scarlet-fever patients with or without albumin in the urine. In those cases in which the largest amount of sugar was detected, the urine was passed in small quantity, and was rich in urea and mineral salts, although, ordinarily, a milk diet tends to increase the amount of urine. The author has not determined whether the variety of sugar present was glucose or lactose. He has estimated it as glucose.

The author considers that the presence of a notable quantity of sugar in the urine of scarlet-fever patients is possibly an indication that the kidneys have not as yet regained their normal physiological power.

Clinical Memorandum.

A CASE OF ACUTE LOBAR PNEUMONIA WITH PROTRACTED FIRST STAGE.

BY J. D. JONES, M.D., UTICA, N. Y.

Benjamin J., aged twenty-two, of good constitution, but a hard drinker, was in his usual health up to September 28, 1887, when he had a severe chill. He was so ill that he kept his bed, but did not call a doctor till October 2d. He was then complaining of headache, a slight cough and vomiting. His pulse was 120; temperature, 104.5°; Respiration normal. Pneumonia was suspected, but physical examination of the lungs revealed nothing abnormal. His bowels were loose, owing to some "opening medicine" he had taken. Gurgling was obtained in the right ileo-cæcal region — a sign found in looseness of the bowels from any cause. He was given some antipyrine to reduce his temperature.

October 3d. A. M. Pulse, 102; Temperature, 102.5°; Respiration normal. Headache, cough and persistent vomiting. P. M. Temperature, 103.5°; other symptoms the same as in the morning. As six days had now elapsed since the chill, and physical examination of the chest revealed nothing abnormal, and owing to the prevalence of typhoid fever in the city, the case was reported to the board of health as one of that disease.

October 4th. He was delirious last night and to-day he complained of severe stitch in his right side. Severe epistaxis. A. M. Pulse, 102; Temperature, 102°; Respiration, 32. P. M. Pulse, 104; Temperature 103.75°; Respiration 32. A crepitant râle was heard over the lower lobe of the right lung posteriorly.

October 5th. A. M. Pulse, 108; Temperature, 103.5°; Respiration, 48. The physical signs of consolidation were heard over the posterior aspect of the right lung.

October 6th. The whole of the right lung is now consolidated. It will not be necessary to give the details of pulse, temperature, respiration, etc., the case pursuing the usual course of a severe pneumonia with active delirium throughout, and ending fatally October 14th, ten days after the crepitant râle was heard, and seventeen days after the chill.

Dr. Wilson Fox, in his article on "Pneumonia" in "Reynolds System of Medicine." says, "Rigors may precede by a period of from twelve to twenty-four hours, or even in some cases, of from three to four days, all other symptoms and local signs of pneumonia with the exception of pyrexia." Other authorities give three to four days as the extreme duration of the stage of engorgement.

I report this case lest others may be misled by their text-books on this point — and, possibly, to spare them the humiliation of having reported as typhoid fever, what subsequent events proved to be a case of acute primary pneumonia.

[19] Journal de Pharmacie et de Chimie, September 15, 1887, p. 275.
[20] Journal de Pharmacie et de Chimie, August 15, 1887, p. 145.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.

C. P. STRONG, M.D., SECRETARY.

Meeting October 3, 1887, Dr. J. W. Swift in the chair.

Dr. Blodgett showed the organs from an autopsy which had been made on the day of the meeting.

The case was one of carcinoma, which was peculiar in the seat of its primary development, it having arisen from the cicatrix in the centre of the umbilicus.

The umbilicus presented the appearance of being much enlarged, and protruded about one centimeter beyond the level of the surrounding skin. Its centre was the seat of a loss of substance by ulceration, by which a cavity had been formed, about one centimeter in depth, and the same in diameter.

The panniculus adiposus was remarkably developed, the layer of abdominal fat being more than an inch in

thickness. The peritoneum was thickened and brawny, so that it resembled a fascia much more than a serous membrane. On opening the cavity of the abdomen, the omentum was found to be thickened to a most surprising degree, and to be of very hard and resisting character, so that it formed an unyielding capsule over the organs concealed beneath. The peritoneum was adherent to the omentum, and this to the viscera, so that the entire contents of the abdominal cavity formed a single agglomerated mass, in which little could be distinguished, and still less could be separated. The parietal surface of the peritoneum was much thickened, its texture changed to a mass of elevated, hard nodules, some of which were in a state of softening, and others were firmly attached to neighboring parts, which lay in apposition to them. The adhesions were most numerous and strong in the right hypogastrium, where the intestine, both in its ilium and colon divisions, was entirely obscured by the mass of firmly adherent and enormously developed new tissue. At other parts of the intestinal canal, there were isolated nodules of disease, from extension of the cancerous disease into these structures.

The cancerous disease had ascended towards the right hypochondrium, and had enveloped the pyloric end of the stomach by a dense and undistinguishable mass of firm tissue, in which the duodenum could not be traced, and which was attached to the neighboring portion of the liver. There were several large nodules in the substance of the liver, and some of these were already in a commencing stage of softening; they were situated mostly in the extreme right portion of the organ, although one isolated nodule was located in the apex of the elongated left lobe of the liver, which was lying in close proximity to the spleen. The stomach was the seat of invasion of the malignant process, and, in one place, it was so softened that the tissues were torn, even by the most careful manipulation, while being removed from the body. At the pylorus was a firm and dense infiltration of the gastric tissues, by which the lumen of that orifice was much reduced, and, at one point, the disease had perforated the mucous membrane, and appeared as a rounded prominence in the interior of the canal. The spleen presented a distinct nodule of cancerous nature upon its upper border, where it was much softened, and easily broke down. The entire organ was smaller than usual, and seemed to be in a state of moderate cirrhosis. There was no noticeable infiltration of the mesenteric glands, nor did the disease anywhere pass through the diaphragm. The kidneys were not invaded, nor were the organs of generation noticeably diseased. The cancerous infection of the organs within the abdomen seems to have proceeded by contiguity from one point to another, rather than by general infection through the lymph or the vascular channels, unless the invasion of the liver may be thought to have resulted from the emigration of portions of the diseased tissues from some part of the domain of the portal circulation in the mesentery, where there were numerous centres of disease, which had in some places undergone softening. There was no enlargement of the axillary, inguinal, or other superficial glands, or any appearance of further metastasis of the disease. The head was not examined.

Dr. Porter inquired as to any possible cause of irritation, or the existence of any previous ulceration.

Dr. Blodgett replied that there was nothing ever noticed previous to the uncertain existence of a "lump." The daughter is said to be subject to transient attacks of an erysipelatous character, and the mother the same, but the speaker knew nothing as to the nature of them.

Dr. Porter asked if the peritonitis was general cancerous peritonitis.

Dr. Blodgett said it was, and that its development could be well traced through the influence of gravitation. There was one symptom which the speaker had not infrequently noticed in cases of malignant disease; namely, increased susceptibility to high temperature, although, by the thermometer, the patient's temperature showed no elevation.

Dr. Kingman read a paper upon

ANÆSTHESIA IN NORMAL LABOR.—SECOND PAPER.

Dr. Blodgett condemned the use of the saturated ether sponge, because he had seen several cases of ether habit arising in this way. He had, personally, had very satisfactory results from the use of cocaine, which diminished the pain, and made the patient comfortable, simply by introducing a solution from time to time into the vagina during labor.

Dr. Dunn said that he had an antipathy to ether, and had but once employed it in a normal case. In every case in which he had had a post-partum hæmorrhage, ether had been used.

Dr. Strong said that the arguments advanced in the paper were not such as to induce him to abandon the use of chloral in the first stage of labor for ether. He thought the unsatisfactory results which were sometimes reached with chloral were attributable, not to the drug itself, but to its improper administration. To secure the best results, the medical attendant should not direct the nurse to give small doses of ten grains or so at intervals of thirty or forty minutes, as is quite customary, but, beginning with a full dose of fifteen to twenty grains, should remain with the patient, and administer one, two, or more doses of the same amount, at intervals of twenty minutes, thus securing a full physiological action of the drug. In the speaker's experience, there are no strictly normal cases where the treatment has not proven perfectly satisfactory. Of course, in cases where there is an extremely rigid os, neither chloral nor small doses of ether will prove sufficient, but complete surgical anæsthesia is demanded. The speaker took decided grounds against those who claimed that ether induced post-partum hæmorrhage.

Dr. Kingman, in closing the discussion, asked concerning the method of applying cocaine, and then explained that he had omitted the drug from consideration in his paper because it did not seem to him of sufficient value, in labor, to come in competition with the anæsthetics mentioned. He had never used it, as he had seen no really favorable reports of its action, and doubted its ability to relieve the highly complex pains of parturition.

Referring to the remark of one of the members to the effect that, in a large obstetric practice, he had gotten along very comfortably without ether, the speaker questioned whether the patients had fared so comfortably, and urged with warmth the consideration in this matter of the question of humanity. "True our grandmothers bore children without ether, and so they did without antiseptics, or even true cleanliness, but they died by hundreds of septicæmia. We have

offered women immunity from that dread disease, and hold in our hands the means whereby we can relieve their pain. Shall we refuse to use it simply because, so far, some have gotten along without it?"

DR. E. N. WHITTIER then read a paper upon

MESENTERIC ANEURISM.[1]

BOSTON MEDICO-PSYCHOLOGICAL SOCIETY.

PHILIP COOMBS KNAPP, M.D., SECRETARY.

MARCH 17, 1887. DR. H. R. STEDMAN in the Chair.

DR. E. S. BOLAND read a paper,

SYMPTOMS FOLLOWING INJURIES TO THE HEAD AND BACK.[1]

DR. KNAPP said that he saw the case in consultation in February, 1886, and at that time he made a provisional diagnosis of hysteria, giving a rather favorable prognosis. Further consideration of the case had led him to reconsider his diagnosis and to give a bad prognosis. The pupillary symptoms, the loss of control over the sphincters of the bladder and rectum, and the loss of electrical excitability in the muscles were not symptoms that could be produced by hysteria, but they pointed unmistakably to some structural change. He had had an opportunity of late to study many cases of nervous disease produced by injury occurring in the ordinary occupations of life, where there was no disturbing element of damages to complicate matters, and, in his experience, hysteria was a very rare result of such injuries. Neurasthenia was commoner, but still rare. Moreover, he thought that the favorable prognosis sometimes given in hysteria or neurasthenia of traumatic origin was a mistake. He saw no reason why the prognosis should be better than it is in idiopathic cases; and, in fact, he had seen cases of hysteria and neurasthenia where the symptoms had persisted for twenty years after the injury.

DR. FISHER said that we get genuine nervous symptoms in "railway spine," from concussion of the brain and cord, but the lesion was still unknown. Of course there was room for fraud; yet one case that he saw eighteen years ago, remained an invalid for years. Another case, where there may have been exaggeration, but not entire deception, was awarded $35,000 damages, and soon after recovered so as to be able to walk about with a plaster jacket. The symptoms were not always proportionate to the injury. A patient simply sat down on the ice, and now, four years later, is helpless and somewhat demented. He had once saved a road from damages by proving a previous hysteria. Most cases were without doubt genuine, some being functional and others organic.

DR. COWLES said that we saw all degrees of disturbance from slight causes, even from minor injuries. It was hard to differentiate the cases, for, as there is room for fraud, even genuine cases may be doubted.

DR. BULLARD said that in a large number of the cases that he had seen there was very little reason for simulation. In many cases the trouble lasted a long time, and sometimes they never recovered. Many cases, which are apparently functional, last a long time after any reason for simulation had passed away. A case of brachial paralysis, with reaction of degeneration in the muscles of the shoulder, had also hemianæsthesia. The symptoms were present three months after the trial, since which time the patient had disappeared. Here there was no deception. Great caution was necessary, but many persons who are injured find it hard to prove it.

DR. C. F. FOLSOM said that there was a certain group of symptoms which justified the diagnosis of organic disease, but there was no group of symptoms which justified us in excluding it. Hysteria is often a symptom of organic disease. Simulation is often practised, and is hard to exclude. He cited a case where four men of great experience in such cases testified in a patient's favor, the patient in consequence getting a verdict of $1,500. In a fortnight after, the man was well. A shaking up may cause a pure insanity, — a mild, affective functional trouble which may go on for years. Some patients get well in a few years, but they don't realize the fact until they get a sudden stimulus, such as the mind-cure. The commonest class of cases is called "hysteria," — a doubtful diagnosis. Very few of them recover completely, and in some of the worst cases there is no question of damages. One man had all the symptoms of "railway spine," after a highway robbery. He could not work for four years, and he is not well yet. In such cases, as Westphal thinks, there are probably minute patches of sclerosis. Hysteria is very rare. There is probably a slight injury, with degeneration of isolated cells, causing no exact symptoms, yet interfering with the general physical and mental health. A confident diagnosis of hysteria is unjustifiable.

DR. J. B. AYER said that the therapeutic value of settlement was marked. A man was struck by a horse-car, receiving various injuries which gave him a good claim upon the company. He stayed in bed, and it was hard work to get him out of bed. The claim was settled, and he improved so as to walk about, but some weeks later he was seen again on crutches, because he thought he had another claim against the city! On being convinced that he had no further claim he abandoned his crutches.

THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, October 20, 1887.

DR. CLINTON WAGNER read a paper on

COLORADO SPRINGS AND DAVOS-PLATZ COMPARED AS WINTER HEALTH RESORTS.

Dr. Herman Weber, he believed, was the first to recommend high, dry altitudes for patients suffering from phthisis. Not long since, warmth and equability were considered the essentials for a climate adapted to this class of cases, and many physicians were still of the same opinion; but the change that had taken place in the minds of a considerable proportion of the profession was forcibly shown in the popularity of such resorts as Davos and Colorado Springs, at one of which there was snow on the ground fully half the year, and at the other of which there was sometimes a difference of 130 degrees Fahrenheit between the day and night temperature. There was, in fact, no section of country in the world which combined warmth and equability with dryness. Dr. Denison, of Colorado,

[1] See page 450 of the Journal

[1] See page 446 of the Journal.

in one of his valuable papers had said that variability was characteristic of dryness, and equability was found only associated with dampness.

Dr. Wagner said that he could speak of both Colorado Springs and Davos from his own personal observations while residing at these resorts. Colorado Springs was at an elevation of more than 6,000 feet above the level of the sea, and five miles to the west of it was Pike's Peak, over 14,000 feet in height. It had the dryness of an inland desert, the climate was exhilarating, the atmosphere more clear than that of Italy, and its scenery compared with that of Switzerland. From September to the latter part of April or first of May there was no rain. There were no fogs or mists, and while snow occasionally fell, it rapidly disappeared. The sun shone for 330 days in the year, and in the sun the temperature was warm — 90 to 130 degrees. There was always at least 50 degrees between the temperature of the sun and shade. If the atmosphere were not cold and dry, the heat of the sun would be unbearable. Sometimes at night the thermometer fell considerably below zero.

One great advantage of Colorado Springs was that the invalid could be so constantly out of doors. The wind was the most disagreeable feature of the place, and this was worst in the months of November and March. On the whole, however, there was less wind than in the resorts of the Riviera. In pulmonary diseases the results were excellent, and cases with tuberculous cavities had been reported as cured. Nervous and irritable patients, with a tendency to vascular excitation, should never be sent to Colorado Springs, as the climate was too stimulating for individuals of this class. From all that he could learn, this resort was not contra-indicated in laryngeal phthisis, provided the patient were improving in other respects. He had seen one case of this kind cured, and one other that was improved and on a fair way to recovery.

The hotels and boarding-houses were excellent, and good furnished houses, provided with all the modern conveniences, could be secured at reasonable rates. There are fine churches, schools, libraries, a theatre and a club. The society was excellent, and there were plenty of horses, which could be bought or hired cheap; so that riding and driving constituted a conspicuous feature of the life there. Moreover, the accessibility of the place was a great recommendation to Americans.

Davos was an Alpine valley in Switzerland, 5,300 feet above the level of the sea, and protected from the winds by high ranges. The climate in many respects resembled that of Colorado Springs, although the temperature in the shade averaged lower — from zero to 25 degrees. The north wind was thoroughly exhilarating and bracing, but the south wind was enervating, damp and disagreeable. When the snow melted the atmosphere was naturally full of humidity. The snow usually lasted from the latter part of October to the early part of April. The invalid's day was very short, lasting only from ten to three. So far as his observations went, any serious cases did not recover at Davos, and he thought it was a resort better suited to patients with incipient phthisis and those who retained a certain amount of robustness. The air was entirely too cold to sit out of doors when there was no sun.

There were certain points of difference between the two places, and there could be no doubt that the advantage was on the side of Colorado Springs. Thus, while at the latter there was an average of twenty-eight good days in the month, at Davos there was only twenty. At Colorado Springs there were eight hours of sunshine in the day; at Davos, four and one-half. At Colorado Springs the invalid could engage in riding, driving, tennis, picnics, etc.; while at Davos the out-door diversions were confined to skating and tobogganing, which involved too violent exercise for many patients. At Colorado Springs the invalid could enjoy the comforts and advantages of home-life; while at Davos he was compelled to stay in a hotel, and it was well known that hotels frequented by many phthisical patients always partook more or less of the character of hospitals and were depressing in their influence. At Colorado Springs the patient could remain throughout the year; but at Davos he was obliged to leave early in the Spring, on account of the dampness from the melting snow.

At Davos the hotels were excellent, and there was plenty of amusement. Formerly the drainage of the place had been very defective; but within the last few years a most efficient system of drainage (said to be the best in Europe), had been introduced. As much could not be said for Colorado Springs, where there was no public system of sewerage whatever, and cesspools and old-fashioned privies were still in use. He understood, however, that a complete system was now in contemplation, and with the natural facilities of the place for good drainage, he had no doubt that it could be made very perfect. On the whole, he would say that while Davos was unquestionably the best high altitude health resort in Europe, the advantages of Colorado Springs were greatly superior in many respects.

Moreover, there were at Manitou conditions very similar to those at Davos, although it was at an altitude of more than a thousand feet greater, and the shortest days for the invalid was six hours in length. It was well sheltered from the winds, and also possessed some excellent mineral springs. At present, however, it was comparatively deserted in the winter.

DISCUSSION.

Dr. Alfred L. Loomis said that the climatic treatment of phthisis was constantly being regarded with more and more favor, and deservedly so. Eighteen years ago he had read a paper before the American Medical Association, in which he took the ground that it was wrong to send patients to warm climates, because a stimulating air was required in order to enable the patient to take out-door exercise. From his studies in connection with this subject since that time he had arrived at certain definite conclusions. In the first place, he did not believe that there was any locality which was *par excellence* the place for phthisical patients; but he recognized that two things were absolutely essential for a curative effect to be produced.

The first was a pure atmosphere, an aseptic atmosphere, if one chose to call it so. Pure air could be taken into the lungs on the same principle that antiseptics were employed in external disease and in surgical cases. He did not think it was possible to treat tuberculous cavities with antiseptic solutions, and doubted whether inhalations or other forms of applying antiseptic agents had any real effect upon the lungs. But if we could keep these organs constantly bathed in an aseptic atmosphere, we were doing all

that was in our power to arrest the disease. Under the beneficial influences of such an air the temperature was reduced and distressing nervous symptoms were relieved. This element, therefore, must be sought for in whatever locality was selected for the patient. Purity of atmosphere was naturally to be expected in high altitudes; but the number of inhabitants and various other circumstances might cause its contamination to a greater or less extent. He had no doubt that the air of Colorado Springs and Davos was originally aseptic; but since they had become crowded with hotels and consumptives, he feared that this was no longer the case, and he believed that the benefit of residing at these places would grow less and less until they would finally be altogether abandoned as health resorts.

The second essential for a curative effect was the presence of conditions conducive to the pursuit of out-door life. It was simply folly, he thought, for a phthisical patient to go to any resort and spend twenty hours out of the twenty-four shut up in a hotel or boarding-house. It was much better to remain at home; and if the patient was not well enough to take out-door exercise, he was not well enough to be sent to these places. This was why those in the first stage of phthisis were so often relieved; and the reason that those with cavities lived was because they went to the health resort in a condition rendering them able to live out-of-doors. It was, however, not necessary to go to Colorado to find a pure air, and besides, he did not believe that high altitude of itself was of the slightest practical importance. The great desideratum was purity of atmosphere; but as it was desirable that the patient should spend as much time as possible in the sun, Colorado Springs was to be preferred to Davos. As regards recovery in these places, if the patient did not remain in them for two or three years after all trouble had disappeared, the disease was almost certain to re-develop within a few months. This was the great objection to high altitudes for consumptives, and he thought it possible to secure a perfectly pure air at a lower altitude, and that, too, much nearer home.

DR. RUFUS P. LINCOLN said that he agreed with Dr. Wagner in believing that Colorado Springs was superior to Davos, and chief among its advantages over the latter was the larger amount of sunshine met with there. With the sun there was dryness; so that we would naturally look for the best results there. On the first of January at Davos, there was sun for only four hours and fifty-seven minutes; while at Colorado Springs, at the same date, there was sun for over nine hours, or nearly twice as long. There was also much less moisture in the air at Colorado Springs than at Davos. As to the advisability of sending a patient with laryngeal phthisis to high altitudes, there had been of late a considerable change in professional opinion, and Dr. Solly, of Colorado Springs, had told him that he had known three cases to recover at that resort.

DR. BEVERLY ROBINSON, who had been announced to take part in the discussion, but was unable to be present, sent a letter expressing his views, in which he stated that he could not say as much of any health resort in this country or in Europe as of Colorado Springs. A residence there, he thought, was of special benefit in the first stage of phthisis, and patients could there breathe the aseptic air to be obtained only at high altitudes; while the remarkable prevalence of sunshine enabled them to pursue the out-door life which was so important a desideratum.

DR. KRETSCHMAR said that Dr. Wagner was mistaken in supposing that Dr. Herman Weber was the first to call attention to the efficacy of high altitudes in phthisis, as the first one to do this was Dr. Bremer, who did so in a work entitled, "The Curability of Phthisis Pulmonalis," which was published in 1852. He thought that Dr. Loomis was in error in supposing that the aseptic character of the atmosphere necessarily underwent a change in such health resorts as those referred to, as the statistics showed that before the year 1853, when Dr. Bremer established his famous hospital at Gerberstoff, there were actually a greater proportion of deaths from phthisis in the place than there had been since, although more than 13,000 patients had been treated in it. It was also a fact that none of the Sisters who acted as nurses or other attendants in the institution had contracted the disease.

As regards Davos, Dr. Wagner was mistaken in his statement that there were no accommodations to be had except in hotels. There was no dust, which was an objection to Colorado Springs, and the snow unquestionably was of service in helping to preserve the aseptic condition of the atmosphere. In the spring, when the snow melted, the patients very properly left. The most serious drawback that Davos had as a resort for consumptives was the admixture of pleasure-seekers and invalids, since the latter were tempted to indulge in habits which were injurious to them.

The PRESIDENT, DR. A. JACOBI, said that while certain places had a considerable immunity from phthisis, this immunity was only relative. While it might exist among the agricultural population, this would not be the case among those who engaged in in-door employment. One element claimed as an important one in the climatic treatment of phthisis had not been referred to this evening, and that was the necessity of ozone in the atmosphere. This was supposed to be due to sunlight, and it was found among mountains and evergreen forests, as well as near and on the sea. As to the immunity of the nurses and other attendants in Dr. Bremer's hospital, he understood that in this institution it was claimed that the air in the rooms was completely changed five times every hour.

DR. LOOMIS referred to the beneficial effect of antiseptic emanations, and said that many places which were not naturally aseptic were rendered so by such emanations, especially those from evergreen forests.

DR. WAGNER said that he saw no reason why a patient should not be taken to Colorado Springs, even if he were not able to take exercise. The journey could now be made with comfort in a comparatively few hours, and when he arrived he could sit or ride out in the open air, which was not the case at Davos.

Recent Literature.

A Practical Treatise on the Diseases of the Hair and Scalp. By GEORGE THOMAS JACKSON, M.D. New York: E. B. Treat. 1887.

This book is a compiled treatise upon the diseases which affect the hair and scalp. It is in two parts.

The first part, consisting of 59 pages, is given up to a consideration of the anatomy, physiology, and hygiene of the hair; while the second part, comprising 267 pages, is devoted to its pathology, and to the treatment of its diseases. A very complete and painstaking catalogue of the literature which has appeared upon the subject since the year 1860, closes a book which, presenting, as it does, in one volume, a carefully made collection of the existing knowledge and opinions upon diseases of the hair and scalp, will be found useful by those seeking information upon these subjects. G. H. T.

The Modern Treatment of Disease by the System of Massage. By Thomas Stretch Dowse, M.D., F.R.C.P. London: Griffith, Farran & Co. Boston: Cupples & Hurd.

Dr. Dowse's book consists of three lectures on massage which were delivered before the School of Massage and Electricity at the West End Hospital for Nervous Diseases. With the exception of a little elementary anatomy and physiology in the first lecture, they are better adapted to the understanding of advanced students and practitioners rather than to that of those whom it is proposed to turn into skilled manipulators in less time than it takes to ripen pears. The clinical portions of these lectures are well worth reading, but the method of doing massage must be more primitive than that which was practised in the days of Hippocrates. The first principle of common sense in *masséing* is utterly disregarded; namely, to apply as much as possible of the hands and fingers to the surface to be *masséed*. Just imagine any one drawing his knuckles over a patient and making a return stroke with the wrist! The whole palmar aspect of the hands and fingers is thus rendered useless, which could otherwise do much more efficacious, agreeable and economical work. Dowse has it that when both hands are employed in *pétrissage* they should move simultaneously in the same direction, while Murrell thinks they should move simultaneously in opposite directions, but in our opinion they should more often be made to work alternately in the same or opposite directions.

It is a great satisfaction to see an author so thoroughly familiar with the normal and pathological conditions of the nervous system as Dr. Dowse seems to be, and it is evident from this that he feels quite competent to evolve from his inner consciousness all that is necessary to know and to do about massage, with little or no regard to what any one else may have said or done. But we fear that his enthusiasm has occasionally carried him too far, as when he says, "if this sympathetic nerve of the neck were massaged (*sic*) and brought into healthy action, the eye doctor, the ear doctor, and the throat doctor would have comparatively little to do, and the spectacle maker would have to find some new occupation." Kneading dough and lemons teaches nothing about massage on living tissues. What does he mean by imparting energy by massage? His wood-cuts are as useful as if they represented the man who took the measure of a barn-door between his hands, for neither patient nor barn-door is included between the hands.

Amongst the few authors referred to in the index is Oliver Wendell Holmes. We should like to hear Holmes on massage. But it is not about this that he is spoken of by Dowse. D. G.

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A SECOND GASTROTOMY FOR THE REMOVAL OF A FOREIGN BODY FROM THE ŒSOPHAGUS.

It was the privilege of the readers of the Journal last December, to read an account of an operation, at once original and successful, by Dr. M. H. Richardson, for the removal of a foreign body from the lower end of the œsophagus, where it had resisted attempts to dislodge it from above and was too low to be reached by an œsophagotomy. Dr. Richardson opened the stomach by an incision parallel with the border of the ribs, inserted the hand and forearm into the stomach, introduced two fingers into the œsophagus and drew the foreign body — a dental plate with false teeth — into and then out of, the stomach.

A second gastrotomy for a foreign body[1], this time a peach-stone, has just been published by Dr. William T. Bull, of New York. The subject of the operation was a colored boy sixteen years of age, and the operation itself differed in certain features from the prior operation of Richardson. The incision was three inches in length from the level of the ninth costal cartilage to two inches above the umbilicus; the upper limit was determined by noting the point where the percussion dulness of the liver disappeared. This incision was chosen because an incision in the median line would be nearer to the œsophageal opening than one parallel with the border of the ribs and the hand or finger operating through it would be less encumbered by the overhanging ribs. This incision exposed a part of the anterior wall of the stomach and its greater curvature about two inches and a half from the pylorus. At the part chosen for the incision into the stomach, two loops of silk were placed two inches apart in a vertical line, and the incision made an inch and a quarter long between them; additional loops in the edges gave greater control over the incision.

The finger, inserted into the stomach through this in-

[1] New York Medical Journal, October 29th.

cision, closed the wound entirely and was passed directly backward until the vertebral column was was felt, and then upward till it entered the œsophagus, thus making the vertebræ a guide to the œsophagus. The anterior wall of the stomach with its loops of silk, followed the finger into the cavity, and was folded on itself like the invaginated scrotum in examination of the inguinal canal. The foreign body was felt and gentle attempts were made to extract it through the stomach. These failing, a slender bougie was passed along the finger, up the œsophagus and projected from the mouth; a sponge was attached by strong silk to the lower end and pulled through with a view to draw the peach-stone up from below. The first attempt was unsuccessful, but a second with a larger sponge brought the stone into the mouth where the finger met and extracted it. A rapid recovery without accident followed the operation.

The noticeable features of the case which contributed to its success are: the small wound in the stomach just sufficient to admit the index finger, the invagination of the anterior wall of the stomach, the control of the stomach wound by loops of thread so that it was held closed against the finger which acted as a plug and prevented the escape of the gastric fluids, and the very moderate manipulation of the stomach itself.

Dr. Bull emphasizes the advisability, when there is doubt as to the possibility of safely extracting a foreign body by œsophagotomy, of resorting promptly to opening the stomach.

THE MISQUOTING OF MEDICAL MEN.

To be misquoted is a misfortune not peculiar to poets. Indeed, in the ordinary affairs of every-day life, it is notorious that men cannot or do not use that accuracy of statement in repeating one another's remarks which public sentiment exacts in the description of other facts. One of childhood's sports is to procure the repetition of a remark through a series of mouths, when it appears, at last, in a form hardly recognizable to its originator.

There is reason to believe that scarcely any other class of men is so universally misquoted as physicians. Two persons discussing any ordinary subject possess, usually, such a common knowledge of that subject, that each can gain the other's thought, not only from what he actually says, but from what he implies. To his neighbor, one's words usually *connote* certain things in addition to what they definitely denote. Any exchange of thought depends upon what is implied, as well as on what is explicitly stated. Hence, there is little excuse if one cannot repeat the substance of views which he has heard stated on any subject in which he and his interlocutor possess an equal knowledge. But, if men fail so often in this, what wonder is it if they cannot correctly report what their physician tells them. When a physician gives an opinion to a patient on his malady, there is rarely between the two that common ground of mutual understanding which makes the latter really understand what the former means. If, then, the patient undertakes to reproduce the conversation, he usually adds to what has actually been said an interpretation based upon his own previously conceived ideas of the subject — ideas which, it is needless to say, are not those of the physician.

Then there is the fallacy resulting from inability to make a verbal repetition. Even a synonymous word may lose the spirit of the original expression. The last words of Webster have been quoted as "I ain't dead yet," by men who thought they were really giving the classic expression of the dying statesman. The "yaller jaunders" is a diagnosis which has been attributed to more than one dignified and scholarly practitioner. Pelvic inflammation suffers comparatively little distortion when it is understood and repeated, as it always is, as "inflammation of the womb," but the often quoted "inflammation of the bowels," may mean peritonitis, typhlitis, enteritis, or colitis, some one of which the physician probably said, and then gave an explanation which was translated by the patient into what he supposed to be a synonymous term.

But, while it is probable that "gastric fever," "lung fever," and "brain fever" really convey as much of an idea to the patient's mind as the more scientific terms of which these are paraphrases, nothing so good can be said of the vagaries as to pathology and ætiology which the layman's previous conceptions have evolved out of the doctor's brief and guarded statement. One is sometimes confounded to hear these views soberly attributed to sensible practitioners, with no suspicion, apparently, on the part of the speaker of their grotesqueness. Indeed, it is not a rare experience for a physician to be quoted to himself as having told his patient on some previous occasion certain things, whose announcement, to his mind, would cast a serious imputation upon the intellectual integrity of any one who might really have entertained them.

The moral is obvious; namely, to accept with reservations any opinion that may be attributed by a patient to a previous attendant; not to consider that a physician, even though it be one for whom one personally entertains no very high regard, is necessarily a fool because a foolish diagnosis or an outlandish statement of any kind is attributed to him. An explanation always possible, often probable, is, as in the venerable conundrum, "the boy lied."

A CASE OF SUDDEN SUPPRESSION OF THE VISUAL MEMORIES.

RIBOT in his "Diseases of Memory," remarks that in physiology the distinction of partial memories is now currently received. "Memory resolves itself into memories, just as the life of an organism resolves it-

self into the life of the organs, tissues, and anatomical elements that compose it."

As memory is only the sum of partial memories, and all our knowledge (based on memory) is primarily derived through the senses, and as all the sense-organs have their centres in the cerebrum where the residua of sensations (to use Maudsley's expression) constitute the memories of each special sense, so certain diseased conditions may obliterate one set of sense-memories by destroying their anatomical substrata, leaving, it may be, intact the memories of other senses.

Charcot, in a recent lecture, has given us a good instance of this suppression of one of the forms of memory. It was a case of loss of the mental vision of objects — forms and colors — coming on suddenly in a subject noted for great intellectual activity, but especially for the strength of his visual memory. This individual would recall the principal features of a landscape, a painting, a play with extraordinary exactness and vividness; his imagination was keen, and he excelled in perspective. He could readily recall what he had read by the mental images of words, lines, sentences, etc., presenting themselves. His memory of persons and places was wonderful. After the accident to which allusion has been made, and what seems to have been of the nature of a limited embolism, he lost his visual memory of forms and colors, and was obliged in the management of his commercial affairs to have recourse to other forms of memory (the auditive, tactual, etc.), which were unimpaired. The city where he lived, his very home, and the faces and forms of the members of his family were at first strange to him; he recognized nobody except by the voice; he could only find his place of business by inquiry. Little by little his visual memories returned, but never completely. He had lost the faculty of drawing; could no longer sketch the form of any object which he had once seen. His memory of colors was gone; he could not form the mental image of black, white, red, etc., and when anything of a bright hue was presented to him, he could not recognize the color. The larger part of what he had learned by reading was forgotten, while the memory of what had been acquired by the auditory sense was as vivid as ever.

This gentleman wrote to Charcot that his "interior vision," once so active and perfect, "had completely disappeared." He could no longer represent to himself the forms and features of his wife and children, or any other person or object with which he had been familiar. His dreams were completely changed; he now no longer dreamed of persons and places, but of voices and words. A remarkable consequence of the loss of this mental faculty was the change of character which he had experienced. He found himself much less prone to sorrow, sympathy and moral emotion than formerly. Having recently lost a valued relative, he felt much less poignant grief than he would have felt could he have represented to himself by the interior vision the physiognomy of this relative, the phases of the disease through which he had passed, and especially, if he could have pictured to himself the external effect produced by this death on the members of his family. He concludes his letter by the remark that he is now obliged to say to himself the things which he wishes to retain in his memory, whereas, before the occurrence of his cerebral lesion, he had only *to photograph them by sight* in order to remember them.

Charcot concludes some very judicious and instructive comments on this interesting case, of whose details we have given but an imperfect idea, by the following observations: "It cannot now be denied that the possible and actual suppression, in numerous instances, of an entire group of memories, of a whole category of commemorative images, without the participation of other groups, of other categories, is a capital fact in pathology as well as in cerebral physiology; it leads necessarily to the admission that these divers groups of memories have their seat in certain determined regions of the encephalon, and adds another proof to those already existing that the hemispheres of the cerebrum consist in a certain number of differential organs, of which each possesses its proper function, while remaining in the most intimate connection with the others. This last proposition is, moreover, to-day generally admitted by those who study the functions of the brain, not only in animals, in the laboratory, but also, and especially, in man, by the procedures of the anatomo-clinical method."

MEDICAL NOTES.

— The Medical Press and Circular says that "most if not all" foreign visitors to the Medical Congress at Washington suffered from more or less severe diarrhœa accompanied by painful abdominal sensations. The affection often failed to yield to remedies, and "some of the unlucky patients were fain to make haste to return to conditions of existence more congenial to their physical happiness." The cause of the malady is ascribed by our contemporary to the peculiarities of the American dietary, including abstention from alcoholic drinks, the use of ice-water and the non-filtration of the water. Query: if the same causes which produced the Englishman's diarrhœa will account for the American's heartburn on that occasion?

— The annual competitive examination for the post of *Internes* in the Paris Hospitals was fixed to take place on October 14th, but had, as we learn from foreign exchanges, to be deferred, on account of the disorder which occurred when the doors of the Examination Hall were opened. The limit of age for the male candidates has always been twenty-eight, but no limit had been fixed for women until alter last year's examination. It would probably not have been done then if great discontent and consequent disorder had not, on that occasion, been caused by the admission to

the examination of Mlle. Klumpke, who was over twenty-eight years of age. In spite of the new rule, establishing equality of age for both male and female candidates, Mlle. Blanche Edwards, who is more than twenty-eight, succeeded in obtaining an exception in her favor. That favor was met with great hostility from the students, who, by their disorderly conduct, prevented the examination from being held. Immediately the doors were opened, they commenced shouting: "*A bas le Ministre! Vive le limite d'age! A bas Blanche!*" etc. As is usually the case with the Parisian mob of the present day, the immediate business in hand was varied with shouts of "*Vive* Boulanger!" There seems to be some ground for the suspicion that female medical students, or, at least, female candidates for the *internat*, are not altogether popular among their male companions.

NEW YORK. — CHOLERA ITEMS, ETC.

— In a letter to Surgeon-General Hamilton, Health Officer Smith denies that the steamer *Independente* passed New York Quarantine without proper disinfection. He states that the vessel was detained more than twenty-four hours, and that all baggage, parcels, and bundles were opened in the steerage and thoroughly disinfected, although the ship's surgeon had disinfected the steerage and passengers' baggage with sulphurous acid gas several times during the voyage. The letter goes on to say: "He had also caused the steerage decks to be washed with a solution of corrosive sublimate (1 to 500). The captain and other officers confirmed the surgeon's report, and the exceptionally good sanitary condition of the ship satisfied me of its truth. . . . There were no deaths during the voyage, and not a single case of illness among the passengers. Since cholera invaded Italy, in 1884, every steamer with passengers from Italian ports, on its arrival at Quarantine, has been detained until every package of baggage could be opened and disinfected."

In a letter in answer to one of inquiry from Mayor Hewitt, Mr. Bayles, President of the Board of Health, says: "It is undoubtedly true that the arrival of ship after ship, crowded with immigrants from cholera-infected ports or districts, is a public misfortune to be averted, if possible. In view of all the facts, I would respectfully urge the desirability of discouraging immigration, and the Board of Health would cordially second any effort you may be pleased to make to that end. If the Federal Government can in any way interpose to check immigration from ports infected with contagious diseases, it should be asked to do so."

— The packet ship *Washington* has been fitted up as an observation hospital by the Quarantine Commissioners, and the passengers of the *Alesia* have been transferred to it from Hoffman's Island. No new cases of cholera have developed among the *Britannia's* passengers, but measles has now broken out among them, and a considerable number of cases have been removed to Swinburne's Island.

OBITUARY. WM. M. CHAMBERLAIN, M.D.

— Dr. Wm. M. Chamberlain died of pulmonary disease October 31st, at Summit, N. J. He was born in 1826, at Hanover, N. H., where his father was a professor in Dartmouth College, and he was graduated both in arts and in medicine at this institution. After serving as an interne at Charity Hospital from 1851 to 1853, he engaged in private practice in New York, and, during the late war, he became a Brigade Surgeon. He served, afterward, on the Sanitary Commission, and, in 1863, resumed his practice in New York. He devoted himself more particularly to diseases of women, and succeeded the late Dr. Peaslee as attending physician in this department at the Demilt Dispensary. He was also identified for many years with Charity Hospital as visiting and consulting physician, and was, at one time, President of the Hospital Medical Board. Dr. Chamberlain was an accomplished member of the profession, and his numerous contributions to periodical medical literature were characterized by elegance of style, as well as originality and practical suggestiveness. For the past three years, his failing health prevented him from attending to his professional work as actively as formerly, and he was obliged to spend much of his time away from the city.

Miscellany.

CREOLINE: A NEW DISINFECTANT.

DR. F. VON ESMARCH, assistant at the Royal Institute for Hygiene in Berlin, publishes an important and interesting article in Vol. 2, Nos. 10 and 11, *Centralblatt für Bacteriologie, etc.*, upon a new disinfectant — *creoline* — which will at once arrest the attention of students, the more especially so, since Prof. Dr. Eugene Fröhner, of the Royal Veterinary High School, has confirmed, by the most careful experiments, the views expressed by Dr. von Esmarch. Dr. Fröhner describes the results as "astonishing," both in regard to internal administration and external application, and believes that its use in mange and itch will be of value in political economic studies. Experiments were made with creoline and carbolic acid with decomposed material, Asiatic cholera, typhoid, and anthrax; the minutest tables of analysis are given in seconds, minutes, hours, and days, all the changes being noted, and, with the sole exception of the bacilli and spores of anthrax, creoline proved itself to be the most powerful germicide. As yet, Dr. von Esmarch is unable to say why it fell behind carbolic acid in anthrax. In the first trial the results were equal, but in the second experiment creoline did not manifest such germicidal power as the carbolic acid. Dr. von Esmarch says: "All of my liquids were thoroughly decomposed, and emitted a most offensive odor. This disappeared almost entirely when a small quantity of creoline was added, and the mixture agitated every few seconds. The same addition of carbolic acid produced no effect, even when a much larger percentage was used." He also adds: "The action of *creoline* preparations surpasses by far those of carbolic make." A comparison between creoline soap and a one per

cent. sublimate soap resulted largely in favor of the former. The attention of surgeons is especially called to its action upon the micro-organisms of wound-infection, and bespeaks for it careful investigation.

ENLARGEMENT AND DISPLACEMENT OF THE LACHRYMAL GLAND INTO THE UPPER EYELID.

At a recent meeting of the Medico-Chirurgical Society of Edinburgh, as reported in the *Edinburgh Medical Journal*, Dr. Argyll Robertson showed a case of this affection. The case was unique in his experience, and also, he believed, in ophthalmic literature. There were cases of enlargement into the orbit which tended to displace the globe. The displacement of the gland in this case was into the upper lid, in which it formed a tumor, occupying its whole length and part of the breadth, preventing its movements. From the history, that it commenced with a degree of uneasiness and increased lachrymation, and from its granular feel, and the circumstance that, though attached above, it was freely movable under the skin, Dr. Robertson came to the conclusion that the tumor was the gland displaced, and undertook its removal. During the operation, he came across the accessory portion of the gland in its normal position, and left it there to provide moisture for the eye, which had quite recovered from the operation. The lid did not move so readily as its fellow, but its movements were much better than before. The patient had deep-sunk eyes and abnormally small orbits, which afforded a probable explanation of the displacement into the lid, instead of into the orbit. The patient was a spirit merchant, and had sustained no injury to the eye, nor had he any inflammatory symptoms. The tumor was observed by the patient in January, when it was about the size of a bean, since which time it had gradually enlarged. The patient also stated that, in the winter of 1885, a small, similar swelling occurred in the lid, which, however, did not inconvenience him much, and disappeared. The removed gland was also shown.

A CASE OF PURULENT PUERPERAL PERITONITIS SUCCESSFULLY TREATED BY PUNCTURE.

The *London Medical Record* (August 15, 1887), quotes from the *Archives of Tocologie*, an interesting case, reported by Besnier, of a woman twenty-six years of age, married two years previously, having had two miscarriages, who was delivered at term Aug. 23, 1886, after a normal pregnancy, the labor lasting fifteen hours. Four days after her confinement, the patient was seized with shivering, vomiting, and abdominal pain. These symptoms persisted, and the vomiting was particularly troublesome, the vomited matter being of a bright green color. Tympanites supervened, soon followed by profuse diarrhœa. On the fifteenth day the patient was taken into the country, where a certain improvement in her condition seemed to take place. The pain, however, remained, though less severe, and the abdomen gradually increased in size. After six weeks in the country the patient was brought back to Paris, where Dr. Besnier saw her for the first time on October 20th. She was then much emaciated, temperature 98°, pulse small and feeble, 100 per minute, profuse perspiration, preceded by slight rigors and general discomfort, bilious vomiting and diarrhœic stools, complete loss of appetite. The abdomen was distended to the extent of an eight months' pregnancy, but offered no zone of resistance on pressure, and tenderness was not marked. The percussion note above was hyper-resonant; below, absolute dulness prevailed, and the shock was distinctly transmitted from one side to the other. Change of position altered slightly the limits of the area of dulness. There had been no hæmorrhage after delivery, and the lochia had run the usual course. It was diagnosed to be a case of purulent peritonitis, and evacuation of the pus was proposed. This was ultimately agreed to, and on Oct. 30th a moderate-sized trocar was introduced into the left side, at the usual site in puncturing for ascites. Five and a half litres of pus came away in the course of half an hour, the belly being gradually compressed. The wound was dressed with iodoform. Immense relief was at once experienced, and no further accumulation took place. Towards the end of November the patient was able to get up, and soon recovered her health and strength. Menstruation returned soon after, without any untoward symptoms.

Correspondence.

PASTEUR ANTICIPATED IN 1812.

Botanic Garden of Harvard University,
Cambridge, Mass., October 31, 1887.

Mr. Editor,— In the course of my reading, I have chanced upon the following passage, which may prove of some interest to your readers. It is taken from "Observations on Hydrophobia," by James Thacher, M.D., Plymouth, Mass., 1812. It seems as if Dr. Thacher's project was in a fair way of being carried into successful execution, after a lapse of more than seventy years.

George Lincoln Goodale, M.D.

From page 300, of the work cited above, the italics standing as in the original:

"Experiments made upon the canine poison in brutes, might be considered as an arduous and hazardous undertaking, but it is not to be deemed altogether impracticable and I will suggest the following project for the purpose. In the first place, dogs when affected with madness, instead of being killed, should be confined and secured that the disease may run its course, and for the ascertainment of many useful facts connected with its several stages. If experiments on dogs should be deemed too hazardous, let other animals of little value be selected, provided a sufficient number can be procured. Having provided for their security in some proper enclosure, let them be inoculated with the saliva of the mad dog, by the point of the lancet, which would undoubtedly prove as effectual as the dog's teeth. The animals thus infected, are to be the subjects of various experiments and the most attentive observation. With some, the inoculated part might be cut out at different stages, to ascertain the latest period in which it may be done successfully. To others, various counter-poisons and specific remedies might be applied to the wound and administered internally. In fact, it would be difficult to determine, *à priori*, the extent of the advantages of this novel plan, if judiciously conducted. You may smile at my project, but however chimerical and visionary it may appear, I would rejoice to be the *Jenner* of the proposed institution; though I might fail in realizing my thousands, I could pride myself in being the candidate for the honor, and the author of an attempt to mitigate the horrors attending one of the greatest of all human calamities."

LETTER FROM BERLIN.

OCTOBER 11, 1887.

The Sixtieth Session of the Association of German Naturalists and Physicians met in its annual session at the beautiful city of Wiesbaden, so noted for its health-giving properties, as well as its encouragement of just such meetings and associations as this one. This Association is one of the most important of its kind in Germany, and draws attendance from all parts where the German tongue is spoken. It numbers many members. The city did its utmost to make the meeting a pleasant one. A large reception platform was erected at the depot and the principal street, Wilhelm Strasse, which leads from the depot to the Kursaal was highly decorated with flags and evergreens. The session was opened at 9.30 A.M., September 19th, by Prof. Dr. Fresenius, of Wiesbaden. The President, in his opening speech said that this was the third time he had the honor to preside over this assembly and it was the third time the Association had the pleasure of meeting in this city. Contrary to human experience the Association is becoming every year more vigorous instead of growing gradually weaker as the threescore years were attained. The growth of the Association during the last two decades was due, in a large part, to the union of the Fatherland, and the increase of freedom, for which we have largely to thank our worthy Emperor, whose interest in the advancement of science is so well known. Three cheers were then proposed for the Emperor, which were given with a will, and a telegram was sent to him. Dr. von Ibell welcomed the guests, as mayor of Wiesbaden, and dwelt on the great good done the city by hygiene.

The scientific papers were then begun, the first being by the renowned chemist, Professor Wislicenus, of Leipsic, and was "Concerning the Development of the Teaching of Isometric Chemical Connections."

Professor Prever, of Jena, read on the subject "Science and Schools." He discussed the question of over-pressure in the schools, and was in favor of the development of the body as well as of the brain. He dwelt at length on the subject of short-sightedness among the scholars, which is no where so prevalent as here in Germany, and which is year after year becoming more prevalent, and which in fact can be noticed to become more and more aggravated as the classes are more advanced. The health of the children also suffers in other respects at school. He thought the short-sightedness was present in such great amounts on account of the poor light in the school-rooms, and on account of the faulty position of the scholars while at study. On account of the unreasonably long duration of the hours of instruction, five hours following after each other, the brain is overstrained, and that additional trouble is caused by the badly-constructed school benches and desks and the holding and carrying of heavy books and other materials. The classics, he thought, occupied too much time in the schools. They were studied by children of too tender years, and studied too much and too long. It were better were the modern languages, modern history and the sciences studied more to the exclusion of the dead languages.

The paper was received with great manifestations of pleasure.

Dr. Schwartz, of Cologne, read a paper on "Hygienic Problems which present themselves to the Physician who Treats Diseases which spread in Epidemics." The author cited the readiness with which the plague among animals was controlled by the authorities by prompt efforts to prevent its spread, and said that efforts in this direction with regard to infectious diseases among men were not nearly so prompt or efficacious, and left much to be desired. Many of the rules which are made for the prevention of the spread of disease among men, conflict more or less with private interests, and are thus rendered more or less ineffective. The public good is too often laid aside for private interests. It is very necessary that early and exact knowledge of a beginning epidemic be had.

Dr. Meinert, of Dresden, read on the "Influence of the Temperature of the Atmosphere on the Mortality of Nursing Children from Diarrhœas." This gentlemen spoke of the insufficient ventilation and too great warmth of the houses during the summer months. It is worthy of observation that the death-rate in the different stories of the house is different. In the rooms of the cellar, which are generally cool, the death-rate from diarrhœal diseases reaches only 4 per cent. It is highest, however, on the ground floor, where it reaches 12.75 per cent. This is supposed to be occasioned by the fact that this floor is exposed both to the direct rays of the sun and to the reflected heat from the ground. In the first, second and third stories the mortality is considerably lessened. Houses which cool off slowly, as brick and stone ones, and the houses of bakers, in which the bake-oven is built, thus keeping up the heat, have more children suffering from these diseases than others. In the working classes the mortality among children from this class of diseases reaches 61 per cent., in the middle classes, 23 per cent., and in the higher classes still less per cent. The better classes, by opening the windows, and clothing their children in a sensible manner avoid this high mortality. It is interesting to notice that in the south of Europe, for instance in Italy, where the houses are built with the idea of being as cool and well ventilated as possible, the death-rate from these diseases is not so high as in Germany, where this ventilation is not thought necessary.

Dr. Ludwig Wolf, of Berlin, read on "The Coast and Inland Climate of Africa." On the coast the rainy and dry periods exist, but in the interior there is no such sharp division. The temperature change in the interior is very great. In Central Africa malaria is the only disease which causes much trouble. Other diseases are present, but not so much as in Europe. He would not recommend emigration in large numbers to that part, as equatorial Africa is not well suited for Europeans. He thinks that males could go there and with care live in good health for a long time, but as to females he did not think they would do so well, as they are more subject to disease in equatorial lands, such as anæmia and its sequences.

Professor Rudolph Virchow read on "Transformismus or Darwinism." His paper was, as is always the case, full of interest and well listened to.

Professor Meinert, of Vienna, read on "The Mechanism of the Physiognomy."

The display of scientific instruments and appliances was a very large one and consisted of those from all parts of the world. The meeting closed its session on the 23d, and was one which will be well remembered by those who attended its sessions.

German gynæcologists have been busy with the statistics of the operation for the complete removal of the uterus for carcinoma. Material is now on hand to determine if the operation is a justifiable one. The testimony is to the effect that it is. It is, without doubt, superior to any other treatment of the cancerous uterus. Up to the close of the year 1886, 811 cases have been collected, with 47 deaths, or 15.1 per cent. With increased experience the mortality is gradually decreasing, and we may expect it to continue to do so. As to immediate mortality the operation shows better results now than the removal of the breast for cancer. The patients are usually prepared for the operation with an antiseptic vaginal injection. One stroke of the knife frequently suffices to open the pouch of Douglas and display to view the posterior fornix, after which the cutting is done cautiously, paring with the finger-nail. Warm water is kept running over the surfaces, and no sponges are used. The peritoneum is opened on the one side and one finger is passed in, which frees the broad ligament from the uterus. The ligament is then in like manner freed on the other side, up to which time the hæmorrhage is very inconsiderable. The bladder is then freed, which is done with the forceps and the knife. The cut borders of the vagina are then united to the peritoneum, just as was done on the other side. It seems to be of little import whether the uterus is removed through an incision made posterior to the neck, or at the side or front of it.

Some turn the uterus over, others draw it down and remove it. Some leave the opening in the floor of the pelvis, others close it. It may be drained either with iodoform gauze or a tube. If easily done the tubes are also removed. It is not the custom here in Germany as in France and England to use the clamping forceps to restrain the hæmorrhage from the ligamenta lata. The prognosis in the total extirpation of the uterus is quite as good as in the supra-vaginal operation, and is rapidly supplanting it.

Those attending laparotomies in the clinics of Olshausen and Martin, are required not to come in contact with any infectious material on the day before the operation, to wear clean linen and clothing, which has not been in the reach of infection, to take a full bath immediately before coming to the operation, to remove the coat, vest, collar, neck-tie, and suspenders before entering the room, not to touch any of the instruments or materials used in the operation. The operator and his assistants wear a suit of muslin, and are thoroughly antiseptic.

Sanger's method of performing Cæsarean section is rapidly gaining confidence among the Germans. Créde, Leopold, and Gusserow have all done the operation and recommend it very highly. Leopold recommends complete closure of the abdimonial cavity with the continued suture after the protrusion of the uterus. The hæmorrhage after the uterine incision he controls by means of a rubber band or manual compression. He is careful to free the uterine cavity from decidua and that the uterine sutures are very exact in their coaptation. The uterus is opened with an incission, beginning near the fundus and extending down to the lower uterine segment, to the place where the peritoneum is movable, and sits loosely on the inferior uterine segment. The cavity is strewn with iodoform and the incision closed with eight silver sutures, which close the muscle without the decidua. About sixteen silk sutures are then applied which penetrate the peritoneum only. The operation is most successful in Germany. The first 50 cases after Sanger resulted in 36 recoveries or 72 per cent. After Porro, 29 died, or 58 per cent. After Sanger, 14 died, or 26 per cent. This shows a difference of 30 per cent. in favor of Sanger.

REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 29, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	673	237	18.95	15.75	3.75	1.95	10.20
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	278	95	24.84	8.64	2.32	2.16	12.96
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	149	55	19.43	18.09	5.26	2.01	8.71
Boston	400,000	193	68	15.66	14.58	4.32	1.62	7.02
New Orleans	242,750	130	42	16.17	10.01	3.08	—	6.16
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	83	32	14.40	19.20	2.31	1.54	3.08
Pittsburgh	210,000	70	22	65.78	8.58	32.89	12.87	20.02
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	15	6	26.30	10.52	—	5.26	—
Charleston	60,145	36	8	11.12	13.90	5.56	5.56	—
Portland	40,000	9	4	11.11	22.22	11.11	—	—
Worcester	68,383	30	11	29.99	16.66	—	10.00	10.00
Lowell	64,051	40	11	25.00	7.50	12.50	2.50	7.50
Cambridge	59,990	27	9	18.50	14.80	—	3.70	11.10
Fall River	56,863	19	7	15.78	10.52	10.52	5.26	—
Lynn	45,861	12	—	—	25.00	—	—	—
Lawrence	38,825	16	5	6.25	43.75	—	—	—
Springfield	37,577	11	7	63.63	9.09	—	—	45.45
New Bedford	33,393	12	0	—	16.66	—	—	—
Somerville	29,992	14	7	29.56	21.42	7.14	—	—
Salem	28,084	14	3	29.56	14.28	7.14	—	21.42
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	8	0	37.50	25.00	12.50	—	—
Taunton	23,674	6	2	—	16.66	—	—	—
Haverhill	21,795	11	2	18.18	9.09	—	9.09	9.09
Gloucester	21,713	11	3	9.09	18.18	—	9.09	—
Brockton	20,783	6	1	—	16.66	—	—	—
Newton	19,759	5	1	—	20.00	—	—	—
Malden	16,407	1	0	—	—	—	—	—
Fitchburg	15,375	2	0	—	—	—	—	—
Waltham	14,609	4	0	—	75.00	—	—	—
Newburyport	13,716	6	1	—	16.66	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,905: under five years of age 639; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 376, consumption 269, acute lung diseases 236, diphtheria and croup, 170, diarrhœal diseases 66, typhoid fever 49, scarlet fever 38, malarial fever 29, cerebro-spinal meningitis 14, measles four, whooping-cough three, puerperal fever two, erysipelas two. From scarlet fever, New York 13, Brooklyn 10, Boston eight, Somerville three, Cambridge, Lawrence, Springfield and Chelsea one each. From malarial fever, Brooklyn 10, New Orleans nine, New York six, Baltimore three, District of Columbia one. From cerebro-spinal meningitis, New York four, Worcester three, Boston two, Baltimore, Nashville, Lowell, Springfield and Brockton one each. From measles, New York two, Baltimore and Chelsea one each. From whooping-cough, New York, Boston, and Nashville one each. From puerperal fever, District of Columbia two.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending October 15th, the death-rate was 17.8. Deaths reported 3,151: infants under one year of age 719; acute diseases of the respiratory organs (London) 280, scarlet fever 124, diarrhœa 68, measles 50, whooping-cough 50, fever 53, diphtheria 29, small-pox (Sheffield) eight.

The death-rates ranged from 14.2 in Leicester to 27.1 in Plymouth; Birmingham 15.1; Bradford 18.8; Leeds 14.7; Liverpool 17.9; London 16.7; Manchester 24.5; Nottingham 17.5; Sheffield 21.1; Sunderland 18.5.

In Edinburgh 16.1; Glasgow 23.4; Dublin 27.3.

The meteorological record for the week ending October 29, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Oct. 29, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, . . 23	30.20	44.0	52.0	34.0	69.0	40.0	82.0	64.0	W.	W.	S.	12	10	8	C.	F.	C.		
Monday, . . 24	29.95	56.0	68.0	44.0	75.0	43.0	66.0	61.0	S.W.	W.	W.	24	22	14	O.	O.	O.	40-60	*T
Tuesday, . . 25	30.33	43.0	47.0	40.0	63.0	66.0	77.0	68.0	W.	S.W.	W.	8	12	10	O.	O.	F.		
Wednes., . 26	30.51	39.0	44.0	32.0	72.0	72.0	88.0	77.0	N.	N.F.	E.	12	16	12	C.	C.	O.		
Thursday, 27	30.46	44.0	46.0	39.0	76.0	65.0	85.0	75.0	N.	S.E.	W.	8	8	3	F.	O.	O.		
Friday, . . 28	30.26	47.0	49.0	43.0	78.0	79.0	86.0	81.0	N.W.	S.E.	S.E.	3	8	2	O.	O.	F.		
Saturday, . 29	29.97	47.0	52.0	39.0	92.0	87.0	90.0	90.0	N.	S.E.	S.E.	4	12	7	O.	C.	F.		
Mean, the Week.	30.560	45.7	51.0	39.0				73.9										40-60	*T

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 29, 1887, TO NOVEMBER 4, 1887.

ADAIR, G. W., captain and assistant surgeon. The leave of absence for seven days granted on the 27th inst., by the commanding officer, Fort Brady, Mich., is extended twenty-three days. S. O. 251, Division of the Atlantic, October 28, 1887.

BROWN, PAUL R., captain and assistant surgeon. Leave of absence extended one month. S. O. 250, A. G. O., October 27, 1887.

MUNN, CURTIS E., captain and assistant surgeon. Relieved from duty at Fort Canby, Wash. Ter., and ordered for duty as post-surgeon at Fort Klamath, Oregon. S. O. 251, A. G. O., October 28, 1887.

BYRNE, CHAS. B., captain and assistant surgeon. Ordered for temporary duty at Fort McHenry, Md. S. O. 231, Division of the Atlantic, October 28, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 5, 1887.

FITZSIMMONS, P., surgeon. Ordered to the United States Steamship "Marion."

ATLEE, L. W., assistant surgeon. Ordered to the United States Steamship "Marion."

BATES, N. L., medical inspector. Ordered to the United States Steamship "Trenton."

BEYER, HENRY G., passed assistant surgeon. Ordered to the United States Steamship "Trenton."

WHITE, STEPHEN S., assistant surgeon. Ordered to the United States Steamship "Trenton."

RIXEY, P. M., passed assistant surgeon. Detached from the United States Steamship "Trenton" and wait orders.

ASHBRIDGE, RICHARD, passed assistant surgeon. Ordered to the United States Receiving Ship "St. Louis."

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE THREE WEEKS ENDING OCTOBER 29, 1887.

BAILHACHE, P. H., surgeon. To proceed to Buffalo, N. Y., Erie, Pa., Ashtabula, Cleveland, Sandusky, and Toledo, Ohio, as inspector, October 14, 1887.

FESSENDEN, C. E. D., surgeon. Detailed as Chairman of Board for the physical examination of cadets, Revenue Marine Service, October 15, 1887. To proceed to Cape Charles Quarantine Station as inspector, October 26, 1887.

SAWTELLE, H. W., surgeon. Detailed as Chairman of Board for the physical examination of officers, Revenue Marine Service, October 27, 1887.

IRWIN, FAIRFAX, passed assistant surgeon. To inspect unserviceable property of Boston, Mass., and Portland, Me., to proceed to Vineyard Haven, and New Bedford, Mass., as inspector, October 8, 1887.

MEAD, F. W., passed assistant surgeon. Detailed as Recorder of Board for the physical examination of cadets, Revenue Marine Service, October 15, 1887.

WHITE, J. H., passed assistant surgeon. Leave of absence extended four days, October 21, 1887.

CARRINGTON, P. M., assistant surgeon. Detailed as Recorder of Board for the physical examination of officers, Revenue Marine Service, October 27, 1887.

FATTIC, J. B., assistant surgeon. Granted leave of absence for seven days, October 28, 1887.

BETTUS, W. J., assistant surgeon. When relieved at Savannah, Ga., to proceed to Galveston, Texas, and assume charge of the Service, October 17, 1887. Granted leave of absence for thirty days, October 21, 1887.

KINYOUN, J. J., assistant surgeon. Granted leave of absence for fifteen days, October 19, 1887.

$250 PRIZE; COMPETITION OPEN TO ALL THE WORLD.

COLLEGE OF PHYSICIANS, NOV. 1, 1887.

The first award under the William F. Jenks Prize-Fund, of The College of Physicians of Philadelphia, will be made by the Committee, for the best essay upon "The Diagnosis and Treatment of Extra-uterine Pregnancy," as soon after January 1, 1889, as may be practicable. Papers for competition must be written in English, and be presented by the said date. The prize essay is to become the property of the College. By order of "The Committee of the William F. Jenks Prize,"

ELWOOD WILSON, *Chairman.*

1517 Walnut St., Philadelphia, Pa., U. S. A.

PRIZES FOR ESSAYS ON MEDICO-LEGAL SUBJECTS.

The Medico-Legal Society of New York announces the following prizes for original essays on any subject within the domain of Medical Jurisprudence or Forensic Medicine: (1) For the best essay — One Hundred Dollars, to be known as the Elliott F. Shepard Prize. (2) For the second best essay — Seventy-five Dollars. (3) For the third best essay — Fifty Dollars. The prizes to be awarded by a commission, to be named by the President of the Society, which will be hereafter announced. Competition will be limited to active, honorary and corresponding members of the Society at the time the award is made. It is intended to make these prizes open to all students of Forensic Medicine throughout the world, as all competitors may apply for membership in the Society, which now has active members in most of the American States, in Canada and in many foreign countries. All persons desiring to compete for these prizes will please forward their name and address to the President and Secretary of the Medico-Legal Society of New York, to whom application should be made for furthers particulars.

CLARK BELL, *President*, 57 Broadway, N. Y.

ALBERT BACH, *Secretary*, 140 Nassau St., N. Y.

DEATH.

Died in Springfield, Mass., November 5, 1887, Pierre Le Breton Stickney, M.D., M.M.S.S., aged seven-three years.

ERRATUM.

In the JOURNAL of November 3, 1887, page 442, second column, third paragraph, ninth line, for "June" read "January."

Original Articles.

CLINICAL NOTES ON PEDICULOSIS.[1]

BY F. B. GREENOUGH, M.D.

At one of the recent meetings of this Association, the Chairman of the Committee on Statistics, in calling attention to the various interesting points that were shown in their report, stated that the number of cases of pediculosis reported from Boston was largely in excess of those from the other sections. An examination of the statistics published in the Transactions of this Association for the last nine years shows that this was not only the case during the year referred to, but that the excess has been a constant one.

Having looked up the statistics in regard to a class of cases in which I have always been interested I venture to lay before you a few of the results, although I fear that, to many of you, the subject will appear unimportant and uninteresting.

That practically, however, it is not unimportant, in Boston, at least, is, I think, shown by the fact that, out of 15,551 cases of cutaneous disease recorded on the books of the Department for Skin Diseases at the Boston Dispensary, I find 914, or very nearly 6%, entered as being caused by the presence of one of the three varieties of pediculi.

The following table is condensed from the Transactions of the Association, and gives the numbers of the three varieties of pediculosis reported during the past nine years, as well as the whole number of cases of cutaneous disease.

TABLE No. I.

Statistics of number of cases of PEDICULOSIS reported in the Transactions of the American Dermatological Association from 1878 to 1886 inclusive.

	Boston	New York	Philadelphia	Baltimore	St Louis	Chicago	Canada
Cases of Pediculosis	2132	995	320	113	48	660	39
Cases of skin disease	40970	32578	9269	5295	3312	21229	1173
Per cent. of Pediculosis	5½—	3+	3½+	2 1-6	1½—	3—	3—

A summing up of the nine years shows that the ratio of cases of pediculosis to the whole number of skin affections reported from Boston, is a little less than 5½%; from New York, a little over 3%; from Philadelphia, a little over 3⅓%; from Baltimore, 2⅛%; from St. Louis, less than 1½%; from Chicago, less than 3%; and the same ratio from Canada. That is, that Boston reports nearly double the number that the next largest (Philadelphia) does, and almost four times as many as the lowest (St. Louis). An examination of this table shows several interesting points, but I will only refer to the fact that in 1884, New York, out of 2,737 cases of skin disease reported none of pediculosis capillitii, and also that the number of cases of pediculosis pubis reported from Chicago are very nearly, if not quite, equal to those reported from all other localities.

The relative excess, however, in favor of Boston is even more marked in the cases of pediculosis capitis, as its percentage of these cases is 4%, to New York's 1¼%, Philadelphia's 2%, Baltimore's 1½%, St. Louis's 1%, Chicago's ⅞%, and Canada's +1%; that is, double the next highest, and over four times the lowest. This difference, running with constancy through a period of nine years, shows that it cannot be due to an accidental or temporary cause, and the interesting question to me has been as to what it could be attributed. There is nothing in the geographical situation or climatic condition of Boston that would be especially favorable to the propagation of this class of parasites, nor is there that difference in the mode of life, habits, cleanliness, etc., of the inhabitants, as compared with those of her sister cities, that could explain it. The only explanation that seems at all plausible is, that there is a difference in the observers who record the cases, in their classification of them, and I cannot but think that some cases which, in the Boston Hospital and Dispensary case-books, would be entered as pediculosis capillitii, would elsewhere be recorded as cases of eczema capitis.

I have also tabulated the cases of pediculosis from the records of the Boston Dispensary, with reference to sex and age, as well as relative frequency to whole number of cases of skin disease, and have drawn up four tables; that is, one for cases of pediculosis capillitii, which number 500; one for cases of pediculosis corporis, which number 337; one for cases of pediculosis pubis, which number 27; the fourth one being of cases which, on the record books, are entered simply as pediculosis, without stating of what variety; of these there are 50, which makes the total number 914, occurring in 15,551 cases of skin disease, a ratio of about 6%.

TABLE No. II.

Cases of PEDICULOSIS CAPILLITII from the records of the Skin Department, Boston Dispensary.

MALE.

Year ending July 1.	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for year.
1874	..	2	1	1	..	..	..	..	..	4
1875	3	2	1	..	..	..	..	..	..	6
1876	1	..	4	..	..	..	..	..	..	5
1877	4	1	3	..	..	..	..	..	..	8
1878	6	4	2	..	..	..	..	..	..	12
1879	3	1	2	..	..	..	..	..	..	6
1880	2	..	3	..	..	..	..	..	..	5
1881	3	2	..	..	..	..	..	..	..	5
1882	3	3	..	..	..	..	..	..	..	6
1883	2	..	1	..	..	..	..	..	..	3
1884	..	1	..	..	..	1	1	..	..	3
1885	2	2	..	..	..	..	..	..	..	4
1886	3	4	1	..	..	..	..	..	..	8
1887	2	3	1	..	..	..	..	..	..	6
Total Male	34	25	19	1	..	1	1	..	..	81

FEMALE.

1874	2	5	..	..	..	..	..	..	..	7
1875	1	5	2	2	..	1	..	..	..	11
1876	4	4	5	4	1	..	..	..	1	19
1877	7	15	9	2	1	..	3	2	..	39
1878	12	17	12	4	..	..	..	..	..	45
1879	6	10	13	2	1	2	..	..	..	34
1880	6	17	10	1	1	..	..	..	1	36
1881	8	16	6	1	1	..	..	..	..	32
1882	4	10	10	1	..	1	..	..	1	27
1883	5	11	7	..	..	1	2	..	..	26
1884	4	8	1	..	1	..	1	..	..	15
1885	5	17	19	1	3	2	..	1	..	48
1886	4	19	12	1	2	..	1	..	1	40
1887	6	18	10	2	2	2	..	..	..	40
Total Female	74	172	116	21	13	9	7	3	4	419

Total, Male and Female, 500.

[1] Read before the American Dermatological Asso. Aug. 31, 1887.

The three varieties of the pediculus which cause the cutaneous affections that are classed under the heading of pediculosis are the pediculus capitis, the pediculus corporis, and the pediculus pubis.

TABLE No. III.

CASES OF PEDICULOSIS CORPORIS from the records of the Skin Department. Boston Dispensary.

MALE.

Year ending June 30	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for Year.
1874	..	1	..	..	..	..	..	..	..	1
1875	..	..	4	..	2	..	2	..	3	11
1876	..	1	2	3	..	3	2	4	3	18
1877	2	..	1	3	4	8	6	5	3	32
1878	..	..	..	..	1	1	..	4	3	9
1879	..	..	2	3	1	1	..	1	7	15
18-0	..	..	2	..	2	2	2	3	3	14
1881	..	..	1	2	1	1	3	2	2	12
1882	..	2	1	2	4	1	2	4	6	22
1883	..	1	..	1	1	3	3	1	..	10
1884	..	..	2	..	2	2	2	4	3	15
1885	1	..	1	..	1	1	1	..	1	6
1886	1	1	2	2	6	2	..	3	4	21
1887	..	1	..	..	1	..	2	1	5	10
Total Male	4	7	18	16	26	25	25	32	43	196

FEMALE.

1874	..	..	..	..	..	..	1	1	1	3
1875	1	..	..	..	1	..	1	1	..	4
1876	1	..	..	2	..	2	2	2	4	13
1877	2	..	..	..	4	6	6	2	5	25
1878	1	2	..	..	2	1	1	2	4	13
1879	..	1	..	..	2	..	..	4	3	10
1880	..	..	..	..	..	1	2	1	3	7
1881	1	..	..	1	2	1	1	4	5	15
1882	1	2	1	1	..	3	1	2	2	13
1883	..	..	..	..	..	1	1	1	1	4
1884	..	1	..	..	..	3	2	1	3	10
1885	..	..	1	..	..	..	2	2	..	5
1886	1	..	1	..	1	2	1	1	2	9
1887	..	1	..	..	1	..	2	4	2	10
Total Female	8	7	3	4	13	20	23	28	35	141

Total, Male and Female, 337.

TABLE No. IV.

CASES PEDICULOSIS PUBIS, from the records of the Skin Department. Boston Dispensary.

MALE.

Year.	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for year.
1874	..	..	..	..	3	..	..	..	..	3
1875	..	..	..	..	..	..	..	..	..	..
1876	..	..	..	3	..	..	..	..	..	3
1877	..	..	..	2	..	..	..	..	..	2
1878	..	..	..	1	..	..	..	..	1	2
1879	..	..	..	1	..	..	..	..	1	2
1880	..	..	..	1	3	1	1	..	..	6
1881	..	..	..	..	1	..	..	..	..	1
1882	..	..	..	..	1	..	..	..	..	1
1883	..	..	..	..	1	..	..	..	..	1
1884	..	..	..	..	..	..	..	..	..	..
1885	..	..	..	..	..	..	..	..	..	..
1886	..	..	..	..	1	1	..	..	1	3
1887	..	..	..	..	1	..	..	..	..	2
Total Male	..	..	..	..	10	11	1	1	1	2	26

There was only one Female Case which was between fifteen and twenty years of age, and occurred in 1878.

Total, Male and Female, 27.

They each occupy a certain region of the body, and do not encroach on each other's territory, the pediculus capitis confining themselves to the hairy region of the scalp, the pediculus corporis to the body, and the pediculus pubis to the pubic region, axillæ, and that when transplanted from one individual to another, they may get off their own proper ground seems almost inevitable; but, if such is the case, they soon get back there, as they are never, or, at least, rarely seen, except in their own locality. Of the three, the pediculus capitis is the most prevalent. A tabulation of the 914 cases of pediculosis entered on the case-books of my service at the Boston Dispensary shows that 500 were due to pediculosis capitis. I have drawn up the tables with reference to sex and ages, and from them certain facts can be deduced (Table No. II). The proportion of cases with regard to sex is seen to be 81 males to 419 females. In the male cases, of the 81, 34 were boys 5 or under, 25 between 5 and 10, 19 between 10 and 15, and only 3 above the age of 15. In the females, 74 were 5 or under, 172 between 5 and 10, 116 between 10 and 15, and the remaining 57 cases are scattered along, diminishing in number in each five years of age.

TABLE No. V.

CASES OF PEDICULOSIS. Boston Dispensary. No Variety Stated.

MALE.

Year.	1 to 5	5 to 10	10 to 15	15 to 20	20 to 30	30 to 40	40 to 50	50 to 60	Over 60	Total for Year.
1874	..	..	..	..	..	..	..	1	..	1
1875	1	1	..	..	..	4	..	1	..	7
1876	..	..	..	..	..	..	..	1	..	1
1877	..	..	..	..	1	..	..	1	..	2
1878	1	2	..	..	..	..	1	1	1	6
1879	1	2	..	..	..	..	..	..	2	5
1880	..	..	..	..	..	..	..	..	..	..
1881	..	..	..	..	..	..	..	..	..	..
1882	..	..	..	..	..	1	..	..	..	1
1883	..	..	..	..	..	..	..	..	..	..
1884	..	..	..	..	..	..	..	..	..	..
1885	..	..	1	..	..	..	..	..	..	1
1886	..	..	..	1	..	1	..	..	..	2
1887	..	..	..	..	..	..	..	..	..	..
Total Male	3	5	1	1	1	6	1	5	3	26

FEMALE.

1874	..	..	..	..	..	1	..	..	..	1
1875	1	..	..	1	..	1	..	..	..	3
1876	..	..	..	..	..	..	..	..	..	..
1877	1	..	..	..	..	..	..	1	..	2
1878	..	1	2	..	..	..	..	..	..	3
1879	..	1	2	..	..	..	2	1	1	7
1880	..	..	..	..	..	1	1	..	..	2
1881	..	..	..	..	..	..	..	..	..	..
1882	..	..	..	..	1	..	1	..	..	2
1883	..	1	..	..	..	..	..	..	..	1
1884	..	..	..	..	..	1	..	..	..	1
1885	..	..	..	..	..	1	..	..	..	1
1886	..	..	..	..	..	..	..	..	..	..
1887	..	..	..	..	..	1	..	..	..	1
Total Female	2	3	4	1	1	5	5	1	2	24

Total, Male and Female, 50.

In both sexes, the great majority of cases occur in childhood, when they are not able to take care of themselves. In boys, the frequency of pediculosis capitis drops off markedly at the age when the hair is cut short, and as they grow older, and become bald, they are, of course, comparatively free from it, my table only showing one between 15 and 20, one between 30 and 40, and one between 40 and 50. That the pediculus capitis produces any lesion of the scalp by its bite is very doubtful; that, when present in any number, they will cause a very decided cutaneous trouble, there can be no doubt of at all. It is, however, such as can in no way, from the character of the

efflorescence, be distinguished from an eczema of the scalp, varying in intensity from a congested, scaly form to an acute pustular one, according to the number of parasites present, or the susceptibility of the patient to irritating influences. When I say that it cannot be distinguished from an eczema due to other causes, I mean only as far as the efflorescence itself goes, as its situation, distribution, etc., are such as to make the diagnosis perfectly easy. There certainly is a great difference in individuals as to their susceptibility to the irritating action of the louse, as we see patients with a violently irritated scalp who do not show as many parasites as we find on others, where the cutaneous reaction is very much less. An invariable accompaniment of the presence of lice is the existence of their ova or nits. These are very characteristic, pear-shaped, semi-transparent bodies, attached to the shaft of a hair. When only a few lice are present, they generally are attached to the hair from one to one-and-one-half or two inches from the root, invariably with the sharp end towards the root; that is to say, the egg is laid by the louse with its head pointed towards the scalp. When the nits are very thick, they will be laid nearer and nearer to the root, sometimes almost touching each other. Sometimes, in the case of women or girls with long hair, they may be found on the shaft farther towards the end of the hair, but, as a rule, they are within two, or, at most, three inches of the scalp end. They are found in greater number on the hairs of the back part of the head, sides, and temples, although, in some cases, almost every hair is covered with them. The parts of the head that are most likely to show this cutaneous irritation are the occiput and crown, especially the former. If the patient has been infested by the parasite for some time, a papular eczema may be found on the back of the neck, and even extending down on to the shoulders. The post-cervical glands also may be found enlarged, especially in the case of children, and frequently, it is this enlargement of the glands that causes the mother to seek medical advice.

The diagnosis of pediculosis capitis, is very easy although it is by no means always an easy matter to see the louse itself. If present, however, in sufficient numbers to cause irritation, the nits can be surely seen. In practice, when I see a case of eczema capitis, chiefly confined to the back part of the head, and also find nits, I consider it, treat it, and cure it as pediculosis. It may be said, that it is possible that a case of eczema of the scalp might happen to get pediculi, without their being in any way the cause of the disease, and theoretically I must admit that it is possible; but practically when such cases treated with a parasiticide, have shown within a week that the eczema was cured or at least very nearly so, as has been the case invariably in my experience, it seems fair to assume that the parasite was the origo malis, and more especially so, when the parasiticide used is of an irritant nature, such as would most decidedly aggravate a simple eczema. The treatment of course is addressed to destroying the cause of the trouble, and for this purpose many things are used. It must be remembered, however, that we must not only destroy the pediculi, but that unless we also either remove the nits, or destroy their vitality, the cure is only a temporary one. I have found nothing so efficacious for routine dispensary practice as an ointment of carbolic acid in the strength of one to sixteen or one to thirty-two, that is, ʒss to ℥i of ung. petrolii. This not only destroys the pediculi but sterilizes the ova, and I have never seen any bad results from it. I must say, however, that in some very bad cases when the whole scalp is a mass of crusts, I have used instead for a few days some tar preparation, diluted with cod-liver oil.

Petroleum is a simple and cheap means of treatment, and is very commonly used. Its inflammability is an objection to its use, however, and I think that that is not the only one. One practical point has been strongly impressed upon me, and that is that if you wish to cure your patients, you had much better not tell them that the trouble is simply due to lice. They will not believe you and will not do what you tell them to, and for this same reason they look upon using such a simple means as petroleum with disfavor. It is a mere waste of breath to argue with them; they will say, and oftentimes truly, that they wash the child's head every day. It has been my experience that it is much better to give them some prescription and strict orders to keep the head clean afterwards. In cases where the mother will do it, the removal of the nits will of course be an additional safeguard, and this can be done very nicely by using a fine tooth-comb dipped in vinegar. A wooden comb is best, and it should be dipped in vinegar between each combing. The vinegar dissolves or at least softens the adhesion of the nit to the hair. By this means with a little patience, the hairs can be combed quite clean. It is advisable of course not to attempt to remove the ova in this way until the acute inflammatory symptoms have subsided.

The pediculus corporis, or as it is more properly called, pediculus vestimentorum, owing to the fact that it abides on the clothes and not on the skin, is in a general way very like the pediculosis capitis. It is larger and somewhat longer in proportion to its breadth, and shows a blackish tinge on the back, to which fact is probably due the name used by sailors to distinguish it from the head louse, that is, grey-back. In my tables it stands second in frequency, the number of cases recorded being 337 to 500 of pediculosis capitis. The relation with regard to frequency between the sexes, is reversed in favor of the males, 196 cases occurring in the male sex to 141 in females. The relative age of the patients is also shown to be the reverse of those in cases of pediculosis capitis, and there is not much difference between the sexes with regard to this point, both of them being more likely to be troubled the older they grow. In males the number of cases increases in each five years, from four cases under five years old, to forty-three over sixty, and in females from eight under five, to thirty-five over sixty. As people get older in the rank of life from which we get these cases, they get careless and perhaps unable to see to their personal cleanliness. While we are not able to see any evidence of the pediculus capitis causing a lesion of the skin by its bite, it seems undoubted that the pediculus corporis does, namely, a congested, infiltrated raised papule. This has been ascribed by some entomologists to the anatomical structure of its mouth, and the literature on this subject is extremely interesting, there being a difference of opinion between some of the best authorities, Burmeister being opposed by Simon and Erichson. Whatever the cause may be, there is no doubt but what these papules cause a most

violent irritation, as patients show the effects of scratching even to the extent of deep excoriations. Whether the body louse, when feeding, goes on to the skin, or feeds without leaving the clothing, I do not know, but in point of fact they are rarely seen on the skin. Kaposi states that when present in large numbers they may be seen on the epidermis after the clothes are removed, but I have never but once seen this, and that was in the case of a very hairy man who was infested with the parasite, when on pulling his undershirt off over his head, I saw one which had evidently been swept off, and was entangled in the heavy growth of hair on his breast. The diagnosis of pediculosis corporis in a severe case is very easy, in a slight one it may be quite puzzling. The fact that not only the parasites but their ova also, are found not on the body, but on the clothes, makes their discovery more difficult than in cases of pediculosis capitis. Even when quite plentiful the pediculi themselves are not easy to see. They hide in the seams of the clothing and it will often take a long and unpleasant handling of the clothes before one can be seen. Generally, however, the nits are more apparent. They are smaller than those of the pediculus capitis, and are attached to the fuzz of woollen clothes, or on the threads of seams. Another evidence is often found in small dark minute spots on the white underclothes, which are the fæces of the louse. The main point to guide us is, however, the distribution of the cutaneous irritation on the body. Owing to the fact that the parasite's home is on the clothing, we find the evidence of its injurious influence on those parts of the body which are brought into the most constant and intimate contact with the clothing. These are more especially, the shoulders, and in persons with a full chest the upper part of the breast, and the waist or girth. The outside of the arms, anterior aspect of the thighs, etc., will be more or less affected in proportion to the severity of the case, but it will be the shoulders and breast, and the small of the back and abdomen where the lesions are found most marked. These lesions may consist of congested papules more or less excoriated, deep furrows caused by digging into the epidermis with the nails, excoriated patches, and even furuncules, but I have never seen the moist or pustular eczematous efflorescence, that we so often see as the result of irritation in scabies, especially on the region of the supinators on the forearm. In cases of long-standing, a very decided amount of pigmentation is found, and when furuncles on the thighs have been started, we may get an inguinal adenitis.

It is, however, the much milder cases which will trouble us in the way of a diagnosis, and in such cases we often have to fall back on the distribution of the efflorescences, or, if the case is so light that no decided lesions are to be seen, on the locality to which the patient refers the pruritus complained of. The fact of old patients being especially subject to pediculosis corporis, makes the differential diagnosis between this and pruritus senilis a difficult one in many cases. The same is true with regard to the pruritus which accompanies hepatic disease and that of other organs. It must also be borne in mind that pediculosis may be coexistent and complicate the manifestations of any other skin disease, and such is frequently the case. Strange to say, however, I have never seen it and scabies on the same patient. In the treatment of this form of pediculosis, we have the opportunity of following the old maxim, "*tollite causam*," and thus accomplishing a cure, by simply removing the infected clothes, or rendering them inoccuous. Unfortunately the class of patients with whom we have to deal is such that this is by no means easy. To disinfect the clothing it is only necessary to expose it to the degree of heat at which albumen coagulates, to kill the lice and also sterilize the ova. Abroad, the hospitals have ovens where this can be done without injury, or at least without serious injury to the garments. In Boston, at the jail and States prison, the clothing is boiled, which effects the purpose, but which in the case of woollen materials is apt to render them a little small in future for the owner. Underclothes can, of course be boiled, and if anybody understands how, and is willing to do it, coats, trowsers and waistcoats may be practically nearly disinfected, by passing a quite hot flat-iron along the seams and creases. In these cases, even more than in those of pediculosis capitis, that I referred to, does one run against a snag by telling the patient that their only trouble is due to a lack of cleanliness and the presence of lice. If you spend ten or fifteen minutes in hauling over their dirty clothes and finally manage to show them a louse, they will say, and many of them really believe it, that the state of their blood is such that they breed vermin. To such patients I simply order a solution of carbolic acid to moisten their skin with morning and night, and urge them to have their underclothing boiled as well as washed. Severe cases, of course, would have to be treated according to the lesions they suffered from.

Pediculosis pubis, in my tables, appears as very much less frequently occurring than the other two forms: I only having twenty-seven cases recorded, and of these twenty-six were males. This can not, however, be taken as a fair ratio of the actual comparative frequency of this disease. Without doubt if I had stripped every patient, I should have found that a very much greater number of them had this parasite. The number entered were those that called for advice for this trouble, and that there was only one woman amongst them is due to the fact that we get very few prostitutes as patients at the Dispensary, and still more that they probably recognize the trouble themselves and use domestic remedies to treat it. The ages given in my table are rather interesting, and what would be expected, that is, that of the twenty-six male cases, ten were between fifteen and twenty, and eleven between twenty and thirty, that is, twenty-one out of twenty-six were between the ages of fifteen and thirty. The only woman was between fifteen and twenty. These statistics would show that the pediculus pubis is most decidedly more frequently found in patients of that time of life, at which they are most likely to have sexual intercourse, and conversely would tend to disprove that the pediculus pubis is often acquired from waterclosets, or other non-sexual ways. One interesting fact with regard to this parasite is ignored in my statistics, and that is its occurrence in young children, on the eyelashes. The reason that such cases, of which I have seen about half a dozen, do not appear in my tables, is that they come under the observation of the occulist, rather than the dermatologist, and it has been due to the kindness of *confrères* in that speciality that I have seen the cases I have. The only way in which I can explain their being in such

a position is by supposing the child had slept with an adult infested with crabs, and had snuggled up with its head under the axilla. Anatomically the pediculus pubis differs much more from the other two, than they do from each other, its breadth being almost equal to its length, and the formation of its anterior pair of claws resembling those of the crustacean form, from which it takes its popular name. The two posterior pair of claws are armed at their ends by a quite sharp, sickle-shaped hook.

In its habits also the pediculus pubis is different, as it is found only on those parts of the body, which are provided with the stout curly body hair, same as that of the beard. When I say that they are only found in these regions, I mean permanently settled there, as it is possible that they may be shaken on to some other parts. Within these regions they may be found anywhere, their most common situation being that from which they are named; but from the pubes, as they multiply, they may wander wherever they can find congenial soil. In hairy individuals the median line of the abdomen seems to furnish a road by which they can reach the sternal hairs and the axillæ. I have also found them on the anterior aspect of the thighs, the lower legs and even on the hairs on the dorsum of the phalanges of the toes as well as the beard, mustache and eyelashes. Their position is a very peculiar one, as they are always found at the root of a hair, and apparently clasping the shaft with their anterior claws. Whether the hooklets are dug into the epidermis when the insect is not disturbed, I do not know, but certainly if any attempt is made to remove it, it will be found to cling in a way that almost causes it to be torn apart before coming off. In fact this does sometimes happen. I am inclined, however, to think that this clinging by the hooklets is only assumed when needed, though I can not be certain. I have for a time tried to get hold of the hair at the root of which the crab was seen, with the hair forceps, and try whether by twitching it out by the root, the parasite would come with it. But it is a very difficult experiment to carry out, as the hairs are so thick and matted together, that is on the pubes, the only place on which I have seen the parasite since I became interested in this point, and, moreover, a negative result would prove nothing, as in trying to separate the hair the crab would be likely to be disturbed and fasten his hooks in the skin. I do think, however, that I twice have had the louse started for one-third to one-half an inch from the skin when the hair was quietly seized and suddenly twitched out.

The eggs are laid on the shaft of the hairs, as with pediculus capitis; they are about the same size, I should say, less translucent, not so pear-shaped, and, in the case where only one is found on the hair-shaft, nearer the root end. This, if the fact, is probably due to the pubic and body hairs standing out with their axes perpendicular, or somewhat so, to the skin, whereas the scalp-hairs, in most cases, at least, are smoothed, brushed, and plastered down, so as to be almost parallel, as to their shafts, with the scalp. It would not seem that the diagnosis of pediculus pubis could be difficult, but sometimes it is, especially in cases where only a few of the parasites are present. In these cases, as in those of pediculus capitis of a similar nature, the presence of the nits is often what we must rely on, unless we wish to pass a long, tiresome, and useless time in hunting at the roots of all hairs. Whether the pediculus pubis makes any idiopathic lesion on the skin, I am not prepared to say. Usually, we find a red, papular, eczematous eruption, chiefly confined to the hairy parts, but sometimes extending beyond. In practice, the cases I see are very apt to be complicated with inflammatory manifestations, due to treatment already undergone.

It must be remembered that patients affected with other skin troubles may become contaminated by pediculus pubis, and, in some very filthy cases, all three of the pediculi can be seen on the same subject.

The treatment, unless the case is complicated, is not difficult, but I should be more cautious in using strong means than on the scalp. For ordinary cases, I find carbolic acid in ung. petrolii answers very well. Where severe, especially if the severity has been caused by irritants, emolients, rest, and tepid bathing; as the case yields, then a mild solution of the bichloride, Peruvian balsam, solution of boracic acid, etc. The amount of damage that is sometimes done by a liberal and repeated use of mercurial ointment, which is the popular remedy, is almost without limit.

The means by which these three parasites are communicated from one individual to another is an interesting question, and one of practical utility. The pediculus capitis are most frequently carried home from school, or the play-ground, or from using the same head-covering, brushes, combs, etc. Not infrequently, we find cases in families that one would suppose would be exempt from such accidents, but when we think of horse-cars, railroad-sleepers, etc., their occurrence does not seem so strange. Servants, also, are the means of contaminating members of their masters' families, especially the children. The habits and modes of life of the lower classes, to whom the pediculus corporis is chiefly, though by no means exclusively confined, are such as to favor the distribution of this parasite. Wearing second-hand clothes, being herded together in tenements, sleeping together, and on foul bedding, are all evident means of contamination. The cases which occur in the better classes may be explained by the use of public conveyances, travelling, and juxtaposition to dirty individuals in crowds.

Up to a few years ago, when the bunks at the Tombs and police stations began to be disinfected, a night's lodging in one of them was pretty sure to be followed by contamination, and such cases were very characteristic. I have seen very few such latterly.

My statistics from the Dispensary show 22 out of 27 cases of pediculosis pubis occurring between 25 and 30. This would rather prove that the contagion was mostly due to actual contact, but the fact in private practice is different, perhaps. I certainly have seen cases where it seemed impossible that the parasite should not have been acquired innocently, and such I believe to be the fact, though, perhaps, in a small number of cases, when we consider the position of this louse, and the tenacity with which he clings, it seems strange that he can migrate from one body to another as often as we know he does. Neither can the nits be easily dislodged from the shaft of the hair, but it may be that this may take place when on the point of hatching, or rather, that the young one comes out of its shell, and is shaken off.

The points that have appeared to me as especially worth noting from the Dispensary statistics are the much greater frequency of pediculi capitis in

children in the female above the male after childhood the decided and marked increase of frequency of pediculus corporis in proportion with advancing years and in the case of pediculus pubis, its existence being almost entirely confined to youth and early adults. These may not be facts of much importance, but, such as they are, they seem to be shown by the recorded cases. After all, some facts of interest can generally be deduced from records of a large number of cases which could be got at in no other way.

A CASE OF SO-CALLED "VICARIOUS MENSTRUATION."[1]

BY F. W. STUART, M.D., OF BOSTON.

THE case which I am to report to-night I saw at the Carney Hospital, from October, 1885, to March 1, 1886, during the terms of service of Drs. E. O. Otis and J. J. Minot, and afterwards at the patient's home, until a few weeks before her death. It was suggested to me that the case was very interesting, and that it might be well for me to report it, since I had followed it longer than any other physician. I am indebted to Dr. Minot for the use of the careful notes he made during the time the patient was under his care.

I first saw the patient in October, 1885. She was then fifteen years old, and the following history was obtained: Her grandfather, father, four paternal uncles and aunts, and two paternal cousins, had died of phthisis, and two more cousins were then "in consumption." The patient had never been strong since three years old, had vomited often, and had frequent "sick headaches." She was always feverish, vomited every night if she ate a hearty supper, and so had been accustomed to limit that meal to a glass of milk. The bowels were always constipated, and she took pulv. glycyrhiz. co. continuously. She frequently had sore eyes. In 1882, she had typhoid fever.

November 24, 1884, the catamenia appeared for the first time, lasted two days, were unattended by pain, but since that time the patient had never menstruated. At the next catamenial period, she vomited everything she ate for two or three days, and the vomiting was repeated at each period, when she also had a feeling of weight and soreness in the lower abdomen. At times, she had a pain in the right ovarian region, when a "bunch" could be felt there, though both pains and "bunch" occurred at non-menstrual periods. She had no trouble with micturition. In May, 1885, she had an epileptic fit. According to the Hospital records, she was treated, in April, for a naso-pharyngeal catarrh, where a note is made, stating that a few days previously she had had an hæmoptysis, though, in October, she did not refer to it. From December, 1884, to June, 1885, she vomited only at catamenial periods, never between. In June, the vomiting began to be much more frequent and severe, everything but milk being vomited. In September, after long vomiting, she raised a little blood, and this was repeated several times. She complained of great pain immediately after eating, and vomited without any signs of nausea appearing.

Such was the history of the case up to October, 1885, though there seemed to be a large element of hysteria in the case, and her truthfulness as regards symptoms appeared rather doubtful. The patient was pale, anæmic, and poorly nourished, but physical examination was absolutely negative, with the exception of localized tenderness in the epigastrium. The diagnosis, it was thought, rested between gastric ulcer and vicarious menstruation. She was put on pancreatinized milk, and all went well until the end of the month, when the usual symptoms appeared, and even this milk was not retained. She now visited a "clairvoyant doctor," and afterwards, a quack in New York City, who told her she had an imperforate hymen, which must be cut. She wished advice as to the cutting, but examination showed a normal hymen, as was to be expected from the history of a previous menstruation.

On December 24th, she visited the Hospital after one of her attacks, and from that time up to March 1st, careful notes of her condition were kept.

On that date, December 24th, she stated that, during the attacks, she had pain in her stomach as soon as food was swallowed, and this pain increased, and was accompanied by a loud, rumbling noise. She never belched wind, or passed any per rectum. After two or three hours of this pain she vomited, but evidently not undigested food. She never vomited directly after taking food, nor in less than two hours after its ingestion. After vomiting, the pain gradually passed away in about one hour.

December 22d. She was sitting quietly, began to choke, and then raised some blood, less than a teacupful, she said. She did not vomit at all, but coughed.

On the night of December 23d and the morning of December 24th, while fasting, she raised dark, thick blood. She had no cough; usually ate no breakfast; has had night-sweats. She sat up late nights, ate very little, danced a good deal, and slept poorly. Examination, superficial, owing to the recent hæmoptysis, showed the patient to be small, poorly developed, pale, and anæmic. No enlarged glands were to be seen or felt. Auscultation gave an almost puerile breathing, and expiration slightly prolonged. There was localized tenderness, limited to a small area over the epigastrium. She was told to take peptonized milk every two hours.

December 25th. She raised blood four times. Each time, she first began to choke, and then raised the blood, which was greater in amount than at any time before. She had considerable cough; complained of pain in the lower abdomen. The peptonized milk was retained. She was given ext. ergotæ fl. Her mother stated that the vomiting occurred at about the 24th of each month, and lasted one week. She did not think the patient vomited in the intervals. The blood seen before the last attack was mostly streaked through the vomitus, but, at the last attack, was as stated by the patient.

December 31st. The patient said she felt better. There had been no vomiting, and no raising of blood since the 25th. Her weight, which had been ninety-two pounds, was now reduced to eighty-seven pounds. Examination gave a percussion-note a little higher in the second interspace on the right than on the left side. There was also a slight difference in the back, between the scapula and the spine, the left being the higher. Auscultation gave nothing abnormal. Heart normal. The lower thorax was long and pointed. There was marked tympanitic resonance on the left side of the upper abdomen. There was nothing to be

[1] Read before the Suffolk District Society, Section of Clinical Medicine, Pathology, and Hygiene, October 12, 1887.

seen or felt. There was tenderness in various spots, in the epigastrium, about the umbilicus, and about the edge of the ribs on the left side. She was given malt and the syrup of the hypophosphites.

January 12th. She stated she had been thirsty of late, and had vomited after drinking much water.

January 15th. She had severe pain for two hours after eating some turkey; had then vomited, but the pain lasted about three hours longer.

January 19th. Seemed better; had not vomited or raised blood in the few days past. She had, from the vagina, a discharge of a yellowish matter, streaked with blood. She complained of pain in both iliac regions.

January 20th. Was unable to urinate, and a sitz bath and spts. ætheris nitrosi were given.

January 22d. Vomited a little after a breakfast of beefsteak, but the vomitus consisted only of bile. Urination was all right.

February 3d. She stated that she had been away on a visit, and, at night, was laughing, when she began to cough, and raised a tablespoonful of dark, clotted blood. She did not vomit. During the night she awoke with a "pain in her belly," and the next morning, after taking some milk, she vomited. The vomiting continued all day, but the next day the patient was better, complaining only of a sharp pain in the lower abdomen. She had more discharge from the vagina than formerly. An examination of the chest showed nothing abnormal. The patient was referred to the gynæcologist, who reported everything normal about the external genitals, and would examine further only under ether. From the history he obtained, he was inclined to think the case one of vicarious menstruation.

February 19th. The patient returned, and stated she had been quite well up to the 11th, when, after going to the city, she vomited sour food, but no blood. On the 12th she was better, but vomited again on the 13th, up to which date she felt well, but then she had pain in both groins, so severe that she was doubled up. Before and during the pain, she had passed bloody urine during several hours, and at frequent intervals afterwards, she passed a urine which was pale, clear, and not bloody, but in small quantities. For a few days, the pain returned in the afternoon, though she passed no blood.

On this date, the 19th, the patient said she felt well, though she was weak, and had no appetite. She said she always had diarrhœa during the attacks of vomiting, but, at other times, she had marked constipation. Walking and riding in the horse-cars, she said, always brought on the pain, though she could ride in a carriage without experiencing any trouble. She was very nervous, easily startled, and said she had "nightmare."

On February 23d, she presented no definite symptoms.

I have alluded to treatment a few times, but have not intended even to outline it. Symptoms were met as they arose, but the main object kept in view was to give a thorough course of tonics, which was done by the exhibition of iron, arsenic, extract of malt, and syrup of the hypophosphites almost constantly.

After March 1st, the patient did not return to the Hospital, and, indeed, discontinued treatment. I was, however, interested in the case, and made weekly calls to keep myself informed as to her condition. This did not seem to change much, though she grew weaker constantly, and cough, night-sweats, and loss of strength became the predominant symptoms. Towards the end of April, I again examined the chest, and found evidences of consolidation at both apices. The patient now developed a fever, which remained for weeks at about 102.5°, diarrhœa of a very severe character set in, and the patient rapidly sank, and died in about two months.

Unfortunately, no autopsy could be obtained.

I feel some diffidence in giving my opinions regarding a case so difficult of diagnosis as this. Still, I will venture to offer a few remarks concerning the diagnosis. In the first place, it is certain that the patient died of a florid form of phthisis.

I do not think that she had a gastric ulcer. To be sure, there was vomiting, sometimes hæmatemesis, and localized tenderness; but, opposed to this, the patient never vomited until two or three hours after the ingestion of food, and the blood vomited only streaked the vomitus. Beyond this, there were days when she retained hearty food, and the gastric symptoms were limited to certain periods.

I believe, then, we are to consider three affections as possible during the earlier part of the trouble; namely, vicarious menstruation, the hysterie gastrique of the French writers, and phthisis.

No one of these meets the case satisfactorily. The manner of vomiting, and the character of the vomitus — partially digested food, streaked with blood — suggest the hysterie gastrique. But later, there was hæmoptysis; that is, the blood was coughed up, not vomited, came probably from the respiratory, not the digestive tract.

Vicarious menstruation may occur from both tracts, but there had been normal menstruation, and the absence of the menses was only to be expected in one so poorly developed and anæmic. Again, the vomiting of blood was only a comparatively late symptom, and, notwithstanding the patient's assertions, no direct connection with menstrual trouble could be definitely established. In December, she coughed up blood, but did not vomit; in January she vomited, but raised no blood in any way, and there was an apparent attempt at menstruation; and, in February, there were no definite symptoms. Both of these affections are extremely rare, and both offer such difficulties in the way of diagnosis, that it is only after a very careful study of the case that one is warranted in making such a diagnosis. Either may have obtained and been followed by phthisis.

It is a question with me whether there was ever any disease beyond phthisis. To be sure, it is hard to reconcile all the symptoms of this patient with this view, especially when such careful observers as the gentlemen mentioned failed to find signs; but it is the one disease which every one connected with the case constantly looked for, and it is the one which caused the patient's death. The uncertainties of the case prevent an absolute diagnosis, and were a constant source of annoyance in treating the case.

— A convention is announced to assemble in Washington on January 19th next, in which representatives from the mercantile interests and from the various sanitary associations of the country will endeavor to induce the next Congress to enact a law against food and drug adulteration.

A CASE OF POISONING FROM ARSENICAL WALL-PAPER.[1]

BY W. EVERETT SMITH, M.D., BOSTON, MASS.

ABOUT the middle of September, 1886, my patient, Mrs. S., changed her residence from the country to the city. She very soon discovered that some ferns in her parlors were withering, but not from neglect or improper care, since although ultimately dying, they revived for a brief season upon being removed to another part of the house. In the early part of November, she suffered from an attack of nausea and a dizziness so intense, especially when she attempted to stoop, that for several days she was obliged to keep the bed. These symptoms persisted in their intensity about a fortnight, and were followed by a sharp attack of facial neuralgia which lasted about a week.

In the latter part of December, the dizziness re-appeared, but in a far milder form than it had been the month before. At about the same time she began to complain of extreme lassitude and a loss of pleasure in pursuits that formerly gave enjoyment. The quiet of her own room was the one thing that she eagerly sought.

Although she suffered from a continual slight nausea, her appetite was unusually good; there was, as she expressed it, an almost constant "gnawing in the stomach." After the eating of food the nausea would increase, and she would complain of a feeling of heaviness and uneasiness throughout the bowels, especially in the umbilical region. Her increase of adipose tissue began to be distressing to her. Although she had always before drank very little water, she now was thirsty all the time. The menstrual functions continued to be regular so that the symptoms presented were considered to be indicative of over-work and loss of nervous energy rather than of any physiological disturbance. The patient herself was disposed to consider her symptoms malarial in their nature, although, contrary to her expectations, quinine gave her no relief. Occasionally, she would speak of her eyes smarting and watering if she tried to use them.

Suddenly, on March 16, 1887, she was taken without any apparent cause with headache, extreme nausea, and uncontrollable vomiting. The usual antiemetic remedies, internal and external, dietary and medicinal, were tried in turn, but all without relief. On the contrary, they seemed rather to increase her distress. The only expedient that gave the slightest semblance of relief was the holding of pieces of ice in the mouth. The vomiting was almost incessant and was increased by assuming the recumbent position. The vomitus consisted at first of mucus, on the third day of free blood, and later of thick yellow bile. Tenderness in the epigastric and right hypochondriac regions speedily developed itself. The temperature and pulse remained nearly normal. The nasal discharge was uniformly bloody. The menstrual functions still remained normal so that the symptoms seemed to indicate clearly an acute exacerbation of the same trouble that had existed all winter in a mild and chronic form.

Although I could not absolutely exclude either a primary gastro-duodenal ulceration or some of the freaks of pregnancy, I remembered the withering of the ferns and began strongly to suspect some form of irritant poisoning to be the cause of sickness. I accordingly sent samples of all the wall-papers in the house (except, of course, plain "cartridge" papers which I knew to be practically free from suspicion), to Dr. Edward S. Wood for examination. Upon analysis, he pronounced only one paper arsenical, but found such an amount of arsenic therein, that he advised its immediate removal.

To settle decisively the question of poisoning, the urine also was examined for arsenic. Six ounces collected on March 23d, the eighth day of the incessant vomiting, yielded numerous crystals of arsenic after re-sublimation in the tube, while a quart of urine collected three days later yielded a very dark deposit upon the tube, but after re-sublimation, scarcely a trace of arsenic crystals. This seemed to indicate not only that there had been a very large amount of arsenic in the system of my patient, but also that a rapid elimination of the poison was taking place.

But the vomiting and prostration continued unabated. For twenty days the patient could retain absolutely nothing upon the stomach. Enemata, both of beef tea and of Murdock's Food were attempted, but could not be retained. Finally, brandy was substituted for them and with better results. The temperature had never risen above 100°, nor the pulse much above 96. At midnight of the twentieth day the nausea and vomiting ceased as suddenly as it had begun. The following morning the patient expressed her first desire for food. We began with Horlick's Food, and although during the next week we changed at her request to Mellen's, Hard's, and to Wells & Richardson's Lactated Food, we returned to Horlick's and found it the best suited to the case. The recovery was rapid and complete in less than a fortnight. There was only one relapse that could be traced directly to arsenic.

It had seemed at first improbable not only to myself, but to Drs. Wood and Whittier, whom I consulted in the case, that the wall-paper already found to contain arsenic could be the sole cause of all this arsenical poisoning. The paper was upon the walls of a small room on the entrance floor of the house where the patient had been very little, the parlors were on the floor above, and her chamber on the floor above the parlors. In hopes, therefore, of finding some other source of arsenic, dress goods and window draperies were analyzed, but with negative results, so far as finding arsenic were concerned. Chromium was, however, found in large amounts in one pattern of dark green dress goods. I had early seen to it that all cretonnes and turkey-red material were removed from the chamber, since they are well-known to be highly charged with arsenic.

The almost conclusive proof, however, that the sole cause of my patient's sickness existed in this room is as follows: The dangerous wall-paper was removed while the patient was convalescent. She insisted that she was not yet strong enough to venture from home and so remained in the house, confined strictly to her room, while the work went on. After the walls had been scraped and washed, and the room thoroughly cleaned preparatory to the laying of the new paper, she ventured to look into the room but remained there scarcely ten minutes. She very soon had a return of nausea and vomiting, which lasted nearly twenty-four hours. I thereupon insisted that she go into the country and that in her absence the entire house be

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, October 19, 1887.

thoroughly cleaned and dusted. This was done, and since her return she has presented no further symptoms of arsenic poisoning.

Another member of the family was affected by the removal of the paper, his symptoms taking the form of a sharp diarrhœa. The other two members did not at any time present marked symptoms of arsenical poisoning, except a noticeably sallow complexion and a pretty constant feeling of lassitude all winter. They had, however, had more exercise in the open air than my patient.

I trust the record of this case may stimulate physicians to investigate more thoroughly than they otherwise might, cases that they hastily assume to be the results of malaria, nervous prostration or other indefinite or undetermined causes. Many of these cases I believe to be simply chronic poisoning from some material source near at hand. The profession has learned that wall-paper and some kitchen utensils are often arsenical, and it is slowly realizing that articles of clothing and of household decoration may likewise be injurious to health, although the subject has not yet received the attention that it deserves. It seems to me that it is our duty as physicians interested in public health and preventive medicine to make renewed and concerted efforts to secure such laws as shall make it a criminal offence for a manufacturer to allow any deadly poison to be in fabrics or materials that are used or that are sold upon the market.

REPORT ON GENITO-URINARY SURGERY.

BY ABNER POST, M.D.

LITHOLAPAXY IN BOYS.

Dr. Keegan,[1] of Indore, Central India, has published a series of papers on the subject of "Litholapaxy in Male Children" during the last four years, and various other papers [2] and reports on the same subject have recently appeared. The writers agree upon the possibility and advisability of Bigelow's operation in very young children. Dr. Keegan would as soon think of performing lateral lithotomy on an old man with a small uncomplicated stone as on a boy whose urethra would admit the passage of suitable lithotrites and evacuating catheters. The reports referred to here represent a total of eighty-nine cases of boys between the ages of fifteen months and eleven years. One case only was fatal and that was a case of Dr. Keegan in which the calculus was formed about a stalk which had penetrated the bladder through the rectum. It was a case better suited to lithotomy, and would have been so treated had the history been more carefully considered on his admission to the hospital.

The calibre of the urethra in boys reaches a much larger size than has been attributed to it.

Dr. Raye operated on a boy of twenty-three months using a No. 9 (English) lithotrite and evacuator. It passed with perfect ease and without any incision of the meatus, which was of comparatively monster calibre. The infant recovered without trouble of any sort. Dr. Raye's last case was a boy of eight and a half. The smallest instrument in his possession was a No. 8. It would not pass the meatus which was incised. The instrument then passed rather tightly as far as the bulb beyond which it could not be passed without more force than seemed advisable. A No. 7 would have passed, but he had no such instrument. In Mr. Willett's case, quoted by Walsham, a lithotrite and catheter of No. 6 (English) calibre were used successfully upon an infant of fifteen months. Dr. Keegan has passed a No. 7 (English) catheter into the bladder of a boy only eleven months old. It may seem strange that a false estimate of the normal size of the urethra in male children should have existed until very recently, but it is really no more strange than that surgeons should have believed up to the discovery of Otis that the male urethra is much smaller than it really is.

Dr. Keegan states that while no hard and fast rule can be laid down, the urethra of a boy from three to six will admit a No. 7 or 8 English; that of a boy from eight to ten a No. 10, 11, and even sometimes No. 14 English, but age cannot always be depended on as the measure of urethral capacity. In some children of four or five it is unsafe to pass a No. 7 lithotrite, although an instrument of this size will sometimes pass readily into the bladder of a boy of only two years of age.

The objections that have been urged against litholapaxy in male children are:

(1) The undeveloped condition of the genito-urinary organs.

(2) The small size of the bladder.

(3) The narrowness of the urethra, and its extreme sensitiveness and liability to laceration.

These objections Mr. Walsham considers chimerical. Thus:

(1) As regards the undeveloped condition of the genito-urinary organs, the small size of the prostate is altogether in favor of the operation, since, as we all know, an enlargement of that organ is one of the chief difficulties attending lithotrity in old men.

(2) The bladder is, no doubt, smaller in young children than in adults. But many lithotritists prefer to work with only two or three ounces of water in the bladder; and, in boys of only three or four years old, the bladder is quite roomy enough to permit of the efficient working of a small lithotrite, and such was found to be the case with the bladder of the infant of fifteen months, operated on by Mr. Willett. Further, a child's bladder is more expansive and commonly in a healthier condition than that of an adult, and, therefore, better able to bear any over-distension than the bladder of old men. But of over-distension there need be no fear if a small-sized aspirator is used, or if care is taken to force in only a limited quantity of fluid if a full-sized aspirator is employed.

Of the third objection, the narrowness of the urethra has been already considered.

Mr. Walsham believes the alleged extreme sensibility of the urethra in children to be over-rated; since, as far as he has observed, boys, when they have once got over the timidity of having an instrument passed, bear it quite as well, if not better, than do lads about puberty and adults. Boys have sometimes felt so little that they have much preferred being sounded without chloroform.

As regards the actual performance of the operation,

[1] Indian Medical Gazette, May, 1884, June and September, 1885, June, 1886.

Lancet, 1886, ii, 1068, 1122, 1168. Also reprint.

[2] W. J. Walsham, F. R. C. S. Litholapaxy v. Supra-pubic Lithotomy in Male Children. British Medical Journal, October 15, 1887, p. 818.

Surgeon Major Goldsmith. Indian Medical Gazette, May, 1887.

Raye, D. O'C. Cases of Litholapaxy in Male Children. Indian Medical Gazette, Calcutta, 1887, xxii, May, 129–132.

the same rules hold good as in adults, but certain points are worthy of special notice.

Mr. Walsham thinks, that the lithotrite should be fully fenestrated, and the female blade well bevelled, so that no detritus may be retained between the blades, and the risk of nipping the mucous membrane of the bladder may be avoided.

Dr. Keegan speaks at some length on the choice of instruments. Clogging of the blades of a lithotrite with *débris* is a very dangerous complication in performing litholapaxy in male children, because it has the effect of increasing the size or number of the lithotrite, say from a No. 7 to a No. 8, and in boys there is not much spare room and the effect of increasing the size would be to injure the urethra on withdrawing the instrument.

The evacuating catheter should be furnished with an accurately fitting stylet, in order that any fragment fixed in the eye may be displaced before the catheter is withdrawn.

The meatus should be incised, and no force used in passing either the lithotrite or the evacuating catheter.

The stone should be very thoroughly crushed, as the small size of the evacuating catheter will only allow the removal of small fragments.

Every particle of stone should be removed at one sitting.

The first crushing should be as thorough as possible, so as not to necessitate the frequent passage of the lithotrite and evacuator.

A small aspirator should be employed, to avoid any risk of over-distension or rupture of the bladder.

If the above precautions are taken, Mr. Walsham believes, and the other authors quoted agree with him, that litholapaxy (provided always that, after the incision of the meatus, a No. 5 or 6 lithotrite passes readily into the bladder) will be found as simple and as safe an operation in children as it is in adults; and he thinks that, for all small and moderate-sized stones, it will be the operation of the future in boys and children, as it is in adults; and that the supra-pubic operation will be reserved for the removal of large and hard stones only.

MEDIAN CYSTOTOMY.

Mr. Reginald Harrison[3] writes of the operation as follows: "I think it will be generally admitted that the easiest and simplest method of entering the bladder, say for the purpose of exploring it with the finger, is that known as median perineal urethrotomy, or, incorrectly, as median cystotomy. By this plan, the finger may be readily passed into the bladder," . . . but nothing of any size can be drawn out of such a limited opening. But this opening can be readily adapted to the removal of larger stones, say up to six-ounce urate or oxalate ones.

During the course of a number of operations for the relief of a large prostate, Mr. Harrison found it quite feasible and easy to obtain as free an opening into the bladder by a median incision along the urethra and floor of the prostate as by the ordinary lateral operation for stone. To effect this, the finger having been passed into the bladder by the side of the staff, the opening is extended in the following manner: In the first place, the membranous urethra is slit up along its floor on the staff by a curved, probe-pointed bistoury; in this incision may be included more or less of the perineum, according to circumstances. Any bleeding vessel may be tied before proceeding further. The deep incision is then made by passing the curved, probe-pointed bistoury by the side of the index finger well into the bladder. The staff may be now withdrawn. The blade of the knife is turned downwards towards the rectum, and the floor of the prostate divided from within outwards, commencing at the depression, which exists more or less in all male adults just within the orifice of the urethra. The incision thus made with the knife may be deepened down to the capsule merely by the firm pressure of the index finger downwards. In this way, Mr. Harrison has been able to make as free an opening into the bladder, nearly along the median line of the body, as a lateral lithotomy will permit of.

The advantages of the method described, Mr. Harrison sums up: With such an incision, as much room is gained as by the lateral incision; the liability to hæmorrhage is less, while the facility for getting at any bleeding point is increased. The movements of the knife in one hand are, from the beginning to the end of the operation, under the direction and control of the index finger of the opposite hand. It adapts the median procedure to a wider range of cases than the old median operation. A state of temporary incontinence of urine and thorough drainage is provided for.

Mr. Harrison has no wish to see the median operation supplant the lateral, but desires that it shall be made an "efficient alternative."

PRE-PROSTATIC PUNCTURE OF THE URETHRA.

Under the name of pre-prostatic puncture, Makins refers to the operation usually known by the name of Cock, and tabulates the operations done at St. Thomas's Hospital[4] during the last ten years. The operation has been done during that period forty-six times, for various reasons. In twenty (43.4 per cent. of the whole), it was resorted to for the relief of acute retention of urine, the passage of a catheter having proved impracticable. Of these, four eventually died — two from exhaustion and uræmia, one from pyæmia, and one from an unascertained cause. None of these cases could be said to have died directly from the operation, although it proved incapable of more than temporarily prolonging existence.

In twelve cases (twenty-six per cent.), the indication was less complete chronic obstruction, in which either no instrument, or only a very small one, could be introduced, in the latter cases it being considered that the time gained in ability to commence local treatment of the bladder justified the procedure. Of these cases, also, four eventually died — one of bronchitis and pulmonary congestion, and three of gradual uræmic poisoning.

In the third series of cases, fourteen in number (30.4 per cent.), the operation was performed for retention of urine, complicated by extravasation. Here, as would be expected, the lowest percentage of cures was obtained, as, in five, death resulted, in spite of the operation.

In one instance not included in the above numbers, the operation was successfully performed in a case where a large hæmatoma of the scrotum was complicated by a false passage made by the patient himself in an attempt to pass a catheter.

[3] Lancet, June 18, 1887, p. 1224.

[4] St. Thomas's Hospital Reports, Vol. xv., p. 107.

With regard to the difficulties of the operation, the cardinal one, that of finding the urethra, is shown by the statistics to be unworthy of the importance which has been assigned to it by objectors to the practice. On reference to the table, we find that, in four instances, the operator was unable to convince himself at the time of operation that the urethra was opened, so that the final stage, that of introducing a perineal catheter, could not be proceeded with. In two of these cases, the patient was aspirated over the pubes, and in two the bladder was punctured per rectum, but in three out of the four these measures proved to have been unnecessary, for urine flowed freely by the wound after the operation, showing that the real difficulty had been in passing the perineal catheter, no doubt due, in part, to displacement of the urethra from its normal position, and in part, perhaps, to the smallness of the opening made in consequence.

INFLAMMATION OF THE PRE-VESICAL SPACE, OR SPACE OF RETZIUS.[5]

Dr. O. Pinner (Frankfort on the Main) writes on the above subject. After comparing the anatomical descriptions of the tissue-spaces in front of the bladder given by different authors, Dr. Pinner gives his own methods of studying them. He made an incision in the middle line, above the symphysis, inserted a drainage-tube, and injected soft plaster-of-Paris under considerable pressure. The submuscular space proved difficult of demonstration, owing to the readiness with which the injected matter found its way into the pre-vesical space.

The author is of opinion that these two spaces should be differentiated clinically, as well as anatomically. The muscular space is bounded, anteriorly, by the posterior aspect of the rectus muscles; centrally, by the linea alba; laterally, by the external margin of the sheath of the rectus; below, by the symphasis; and posteriorly, by the transverse fascia of Cooper. The two submuscular spaces are but incompletely separated from each other.

The pre-vesical space is bounded, anteriorly, by the os pubis; above, by the transverse fascia; posteriorly, by the fascia propria and the bladder; below, by the pelvis fascia. This latter space only should be designated as the space of Retzius.

Phlegmons of the pre-vesical space are frequently due to the extension of the inflammatory processes of the bladder, the rectum, the prostate, the iliac fascia, or the pubic bone.

Phlegmons of the pre-vesical space resemble the well-filled bladder. The apex points upwards. Palpitation proves the tumor to originate from the pelvis. The recti can be brought into prominence above the tumor. The tumor can be felt by rectal examination. Bladder symptoms are often present.

If incision is not made, the submuscular abscess generally perforates the skin, or it may perforate into the abdomen. The pre-vesical abscess may perforate through the skin into the abdominal cavity, or into the rectum, the bladder, the vagina, the urethra, or through the incisura ischiadica, into the scrotum, or along the thigh.

This subject was treated in an interesting manner in the JOURNAL of April 1, 1880.

[5] Deutsch Zeitschr. f. Chir., Vol. 23, Hft. 506. Annals of Surgery, May, 1887, p. 434.

Clinical Memorandum.

WAS IT MUMPS?

BY JAMES B. FIELD, M.D., OF LOWELL.

EDWARD B., seventeen years old, noticed while in good health, a swelling under his lower jaw. When seen by me, both sub-maxillary glands were swollen and extending below them was a moderate amount of puffiness, making the neck look large. At no time was there any parotid enlargement, any rise of temperature, or of pulse-rate. The attack lasted about a week, and did not confine the patient to the house. His chief complaint was that pain on chewing and in swallowing did not permit the gratification of a hearty appetite. There was also some pain from distension of the glands.

In reply to a question of diagnosis raised by the patient, he was informed that he was not suffering from mumps. The reasons for this statement were the absente of constitutional disturbance, and the non-involvement of the parotid gland.

Within two weeks from his recovery his elder sister experienced a similar attack of inflammation of the sub-maxillary glands, but with no parotiditis and with no fever. Another young lady, not a sister, but an intimate friend of the young man, was also similarly afflicted at about the same time, and positive assurance was given me that her parotid glands were not affected.

By this time I was ready to admit the probability that E. B.'s complaint was of a contagious nature, but not that it was mumps. To be sure, it is not uncommon to find the sub-maxillary glands involved together with the parotids in mumps, but on consulting such authorities as were easily accessible, I could find only a single reference [1] to mumps involving solely the sub-maxillary glands, and there the diagnosis rested wholly on the fact that mumps was epidemic in that neighborhood. In the case of my patients there was no epidemic, and as far as known, no sporadic cases of mumps on which to base a diagnosis.

In another fortnight, however, a younger sister of E. B. was taken with genuine mumps; the parotid swelling was extreme, the neck was enormously swollen, and the mouth could not be opened. The diagnosis of E. B.'s case was promptly changed from "don't know" to mumps, and shortly afterward his third and last sister also had unmistakable mumps. There were probably no metastases in any of the cases.

[1] Eustace Smith's Disease in Children, 2d ed., p. 66, referring to Dr. Penzoldt, of Erlangen.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

REGULAR meeting, Wednesday, October 12, 1887.

Meeting called to order at 8 o'clock, by the Chairman, DR. F. I. KNIGHT. The reading of the records of the last meeting was omitted, at the request of the Secretary.

DR. W. EVERETT SMITH read a paper on

A CASE OF POISONING FROM ARSENICAL WALL-PAPER.[1]

A specimen of the paper was shown to the Society, but the amount of arsenic it contained was not known.

DR. B. F. DAVENPORT said: It may be of interest to the Society to know, in connection with this case, that the German government has, during the past summer, passed a new law, to go into effect next spring, in which the presence of two-and-one-half grains of arsenic per square yard is allowed in woven goods, provided it is in an insoluble (?) condition. The presence of arsenic in any arsenical color is forbidden if the poison is present as a constituent part of the color; but if it is present simply as an impure material the law forbidding its presence does not apply. What the grounds for these limits of the new German law are, I do not know, but presumably they are based on some competent experiment.

DR. F. I. KNIGHT asked if that would modify the law in relation to the manufacture of colors also.

DR. DAVENPORT: Yes. The old German law, which is at present upon the statute books, forbids the presence of arsenic in toys and wall-papers, but its enforcement has been suspended, and they allow the presence of arsenic in other things, provided they are to be exported. They are not so particular about other nations as about their own. That reminds one of the oleomargarine law in one of the Western cities. The dairy commissioner, reporting on the subject, said it was immediately gotten rid of by shipping into the neighboring States.

DR. ALBERT N. BLODGETT said: I would like to ask Dr. Smith what degree of reliability is to be placed on the testimony of paper manufacturers or paper dealers, as to the presence or absence of arsenic in their manufactured fabrics. A short time ago in a discussion before this Section the statement was made that the certificates of chemists were often utterly valueless; that paper which was pronounced by competent chemists free from arsenic was found to contain large and dangerous amounts of it. I would like to ask if Dr. Smith has had any experience in the proving of certificates of the chemists of manufacturers in regard to the compounds of arsenic in paper, and what value he places upon them.

DR. SMITH: When I was re-papering my rooms, I was in some doubt as to what dealer to go to, Bumstead, or Gregory & Brown. I went to the latter, and picked out papers that I thought I would like, and saw the analyses. The papers were said to be free from arsenic. I did not engage them to hang the paper, but engaged a wall decorator; he traded for the most part with another firm, the Boston Wall-Paper Company. They had a chemist of whom Dr. Wood and Dr. Harrington had never heard. They had specimens which were said to be free from poison. I finally purchased of Gregory & Brown. Dr. Harrington had marked one specimen "Practically free from arsenic." I went to Dr. Harrington myself, because I wanted to know how much it contained. I should place very little reliance upon the statements of any dealer in wall-paper, because he is in one sense an interested, and in another sense an uninterested party. He may sell arsenical wall-paper in perfectly good faith. He receives it from the producer, and takes the word of the chemist. If it proves to be full of arsenic, of course if there were a law, he would be subject to penalty.

When I was getting the paper, Dr. Wood told me an experience that he passed through. He changed the paper in his house while he was at the sea-shore. Dr. Hills one day asked him what paper he was putting on the dining-room. He replied that it was from a lot which had been examined, as the dealer said, by Dr. Hills himself. Dr. Hills was sure he had not seen it before, and on analyzing it, it was found to be a typical arsenical paper. Mr. Bumstead had the paper taken off at his own expense, and Dr. Wood said the paper-hanger had the most typical case of inflammation about the nails that he ever saw. I think Bumstead, although he has made some mistakes that were reported here last winter, has always acted fairly when he has found any paper that contained arsenic. I am sure that Gregory & Brown are very careful.

DR. DAVENPORT said: It is well to remember that the certificate of the chemist applies only to the particular sample examined. It does not apply to another roll, whether of the same pattern or not. Two rolls of the same pattern may be quite different. One may be free; the other may contain a considerable amount of arsenic.

DR. SMITH: The reason why I spoke as I did about the law, was because Dr. Wood said he had been at the State House, in relation to the matter, but has been rebuffed every time. Testimony is brought forward to controvert his own. If the law were passed, he would be cutting his own fingers, for he gets some income from analyzing the papers. He has been one of the most strenuous in pushing the law at the State House. I would like to ask Dr. Davenport whether arsenic in wall-paper does not exist for the main part as an impurity.

DR. DAVENPORT: I presume it does. Most wall-paper in this vicinity is manufactured by the American Wall-Paper Company. They claim, and with reasonable evidence in favor of it, that they do not now use arsenical colors at all and do not intend to have arsenic in their paper. I have understood that they had last year a thousand samples of paper, just as it came from the factory, analyzed, and found it contained arsenic on the average in some 66 per cent. of samples.

The stock from which the paper is made is largely clay, and this, as well as the ochre, may contain arsenic. All papers with gilt contain arsenic, that is, practically all, because commercial copper is very seldom free from arsenic. Of course the bronze contains copper and zinc. Gilt from the American ore is generally free, but imported ore generally contains arsenic. Then as all chemicals are made more or less directly with the use of sulphuric acid, which is made from pyrites, it may come in that way. And so, well nigh everything, unless it has been specially freed from it, would contain a trace of arsenic.

DR. SMITH said: It seemed to me that the amount of arsenic which would thereby creep into the color would be very small, but I supposed that the arsenic was used as a mordant, and was not washed out.

DR. DAVENPORT: As a mordant, quite a number of large cotton print mills use twenty tons of arsenic a month. A common piece of print cloth may contain three, four or five grains of arsenic per yard.

DR. SMITH had been told last June that Mr. Binney, employed by the Walpole company, made the strong

[1] See page 476 of the Journal.

assertion that arsenic had no business in the chemistry of coloring material at the present time; that it was the lazy greediness of the manufacturers, who allow it to remain in their colors; that they do not take time to wash it out thoroughly.

Dr. Buck said: There is one element of danger in papering rooms which does not often come up here. We may have a paper perfectly free from arsenic and still get arsenic poisoning. A certain number of paper-hangers put arsenic in their paste, and that gradually gets through the paper. I would like to know if any one has seen differences in the number of cases reported in different seasons of the year. In my experience I have seen more cases in the summer than at any other time. I have seen many paper-box workers during the summer, and although I have had the Dispensary work to do at other seasons of the year, I have not seen these patients during the winter or fall months. They have presented themselves chiefly during the early summer. I have thought that possibly it might have something to do with the heat, there being a greater degree of volatility at that season of the year.

Dr. Vickery: Would paper containing two-thirds of a grain to the yard, be poisonous?

Dr. Davenport: Whether it would be poisonous is a question of dispute. Some say yes, and some no. Nobody knows.

Dr. Blodgett: I would like to observe that the chemist of the Roxbury Carpet Works, in which nearly all the various colors are employed, informed me that he never used arsenic, and that it was entirely unnecessary and out of place in the production of any color, and that it was perfectly possible to get all the advantages found in arsenic, from other and safe means. He expressed himself very strongly, and said that the presence of arsenic even as an impurity was unnecessary if proper care was employed in the selection of colors.

Dr. Smith added that a former occupant of the house where this patient lived, had died from some obscure trouble, having had stomach and head symptoms. She supposed it was the drainage, and the plumbers had been over the house again and again, but they pronounced everything in good order. Perhaps the present case may give us some hint as to the cause of that sickness and death.

Dr. Pengra: In what form is the arsenic set free from the wall-papers? Is it in the form of gas or solid?

Dr. Davenport: I believe it is now commonly considered that the danger is from the dust which is removed from the surface and inhaled. It was claimed at one time that there was danger of arseniuretted hydrogen being formed and exhaled as a gas. I believe the latest experiments have shown that this gas is not formed except there is free arsenic present in the color. In the case of Scheele's green or Paris green, each commonly contains a certain per cent. of free arsenic, so that in the presence of moisture and fermentation, arseniuretted hydrogen may be formed. In connection with those hearings which were carried on before the legislature, one of the gentlemen papered a large room with a heavy arsenical paper, and drew the air from the room through a solution which would take out the gas which would be formed. I think it was carried on for some weeks without any result.

Dr. Pengra. I would like to know whether the finish would not have something to do with it.

Dr. Davenport. As I understand it, the danger is of the color being mechanically removed. Of course if the finish is such as to prevent that, the danger is prevented. A rough finish I presume is more likely to be loosely attached than the smooth polished surface. There are a great many interesting questions arising from this. Take a paper which contains a grain of arsenic per square yard. Suppose that it covers a room larger than the average, so that we have sixteen rolls of paper. Such a room would have something like sixty grains of arsenic on the wall. It would take a good many years for the paper to fall off, and if one were in the room and inhaled all of it, it would be a very minute quantity. It seems as if people were more affected by very minute doses than we are accustomed to see when we give it medicinally. One writer says that it has a greater effect, but I do not know why.

Dr. Pengra said, I would agree with Dr. Davenport's statements that the arsenic would not become arseniuretted hydrogen, but the process of fermentation may produce that gas. During the past four years I have seen students to the number of from one hundred to two hundred, working in a laboratory where the gas was generated every day, each student probably generating from six to ten volumes in a moderate-sized room. They did this during six to nine months of the year. I have never seen a student suffering from anything like arsenic poisoning. I have seen students suffering from the fumes of amyl alcohol, and from sulphuretted hydrogen; but never has there been a case of arsenic poisoning among students who have been there two years.

Dr. F. W. Stuart then read a paper on

A CASE OF SO-CALLED "VICARIOUS MENSTRUATION."[1]

Dr. Blodgett said: I would like to ask if any medical person witnessed the expectoration of blood at any time.

Dr. Stuart: No; it was something that we attempted to do; I gave notice to the mother to call me at any time that the patient raised blood. My office was only a block from where she lived, but they never sent for me. The mother was hysterical, as well as the girl, and we thought she lied a little more than her daughter did. That was one of the elements that was pretty hard to determine. It was hard to say whether she vomited the blood or raised it by coughing. She insisted that the vomitus was streaked with blood after severe vomiting. That we could see ourselves. She afterward said she coughed up thick blood; that we never saw.

Dr. J. L. Foley asked whether the blood were dark or scarlet.

Dr. Stuart replied that the patient said it was dark. If it were from the air passages of course we would expect it to be bright.

Dr. Blodgett said: I have had the opportunity of examining three cases where the presence of blood was important. One of these was a case where the blood was expectorated by the patient, to the great alarm of the family and the consternation of the physician, who could find no legitimate cause for it. It was finally made evident that the patient willfully and

[1] See page 474 of the Journal.

voluntarily produced the blood from somewhere within the oral cavity. It was satisfactorily determined that the blood did not come from the stomach or lungs, but from some mucous tract above the œsophagus or trachea. A second case which came under my observation was one in which it was believed by the medical man and by the patient that an actual hæmoptysis had occurred, in which the blood followed coughing, and was produced in a fresh or comparatively fresh condition, although never frothy. That was finally, by close study, found to be due to an oozing from the nasal or pharyngeal mucous membrane, which trickled down into the larynx, and then was coughed from the upper portion of the respiratory tract. No symptoms have followed the accident, and they have for many months been carefully watched for. Once or twice it has been noticed in other members of the same family, but it seems to be due to a peculiarity of the patient, and not to organic disease.

The third case was one in which, absolutely, blood was lost in large quantities. Sometimes in quantities estimated at from a teacupful to half a pint. I have never seen the hæmoptysis going on, but I have seen the blood which was produced after the expectoration had ceased. This blood was supposed to come from the lungs. In consultation, a physician of great experience and eminence, pronounced it blood of pulmonary origin. On one occasion I was fortunate enough to see the blood which was formed in distinct coagula. The nurse, who was competent, said that it was found in the mouth in that form, so that the finger had to be used to break up the clumps. This showed that it did not come from the lungs, but from some other part of the body; and I came to the conclusion that it all came from the stomach. The autopsy showed that it came from the exudation of blood through the wall of the stomach without ulceration. There was no other source from which it could have been derived. The lungs were diseased, but there were no cavities, and no signs of a pulmonary origin of the hæmorrhages. There was no crackle, which usually follows the effusion of blood into the pulmonary tract. These three cases have been of interest as presenting three conditions, in each of which the expectoration of the blood was the principal symptom, each of which seemed to analyze itself into a different form from the others, and that is the reason why I asked the question whether any medical person had seen the expectoration going on in this particular patient.

DR. VICKERY. I would like to ask Dr. Stuart how regular, according to her own statement, the loss of blood was. Was it at just the right time?

DR. STUART. Everything depends on how a man reckons the right time. She said that she began about the eighteenth to feel badly, on the twenty-third she began to vomit, the vomiting lasted just one week, and then it all ceased until the next eighteenth. This was the same whether the month had twenty-eight or thirty-one days.

DR. VICKERY. How many months were there?

DR. STUART. From October to January. At each period the symptoms differed. She came to the hospital in October, and said that she had had the vomiting in September. We took her word for that, and then the question was whether she had gastric ulcer. She was told to go home and eat a good hearty meal. She came back and said: "Doctor, the moment I took it, I vomited." We put her upon pancreatized milk. Her vomiting began in June, but she raised no blood then. In December she "coughed" up the blood, but did not vomit any. In June she had made an apparent attempt at menstruation. At one time previously she had had a discharge of blood from the anus.

DR. VICKERY. The hæmorrhage was seen?

DR. STUART. Yes; she did have hæmorrhages. Each time there was blood somewhere.

DR. BUCK. Did she have a small thorax from tight lacing?

DR. STUART. No; she never wore corsets.

DR. VICKERY. I don't think the slightest belief should be given to hysterical patients. One once brought me some live earth-worms which she declared she had vomited. That well illustrates the unreliability of this class of patients.

DR. STUART. The chief interest seems to centre upon this: the girl was an only daughter. The mother was a widow, and thought everything of the girl. The father died of phthisis. There was phthisis everywhere in the family. We asked the question, Is this phthisis? We found no signs in the lungs. The question of vicarious menstruation was raised. It seems to me that the whole thing from beginning to end may be phthisis.

A physician in Boston told me that he was called to see such a case out of town. He found the patient with marked signs of phthisis; cavities in both lungs. The attending physician, who was a man with a large practice, said that it was vicarious menstruation, and that when puberty was established the child would get well. In this case I can only suppose that she had phthisis, and we did not get the signs. Dr. Bowditch examined her once. She was examined by several other gentleman, all of whom pronounced her entirely free from signs. Still, I believe that phthisis was there. I think the whole thing was phthisis.

DR. FOLEY. Did she have any of the symptoms of phthisis, as distinct from the physical signs?

DR. STUART. She was feverish all the time, she said. She also had night-sweats. She said she did not have much cough, but I do not think any reliance was to be placed on that.

DR. KNIGHT. How long from the first blood to the appearance of physical signs?

DR. STUART. Seven months, from October to April.

DR. KNIGHT. It seems to me it must have been the experience of all physicians who have seen such cases that patients not infrequently have hæmoptysis come on sometimes for months or years before the appearance of physical signs. I have frequently met such cases. It is quite the rule, I should say, for patients to have hæmoptysis, and then phthisis after six months. It seems to me that it is not inconsistent with the development of tuberculosis. Supposing when you first examined the case you had found physical signs in the lungs. The question of menstruation would not have entered your head.

DR. STUART. Certainly not.

DR. KNIGHT. Why the difference?

DR. STUART. She was so positive that it occurred so regularly. They questioned her vomiting blood as she said, but certainly I saw vomitus that was streaked with blood.

DR. KNIGHT. Do you think that gynæcologists would accept the fixed date?

Dr. Stuart. No; I do not think so. My view of the case was that it was phthisis. That the vomiting that we had here was hysterical. That the periods came so was due to the hysterical condition of the patient. I don't see why a phthisical patient might not vomit every three or four weeks. It is very easy for a man to be misled, I think. In this case vomiting occurred every three or four weeks in the course of the phthisis. In regard to the question of hysteria, it was admitted by the other physicians who saw her, that her statements were all open to doubt. It does not stand on my own authority.

Dr. Blodgett then showed the following

NEW INSTRUMENTS:

A stethoscope, with a membrane arranged in the bell extremity in such a manner as to intensify the sounds. Of its efficacy he could not speak, as he had not tried it. It also had the merit, the advantage of which was first pointed out by Dr. Haven, of having the flexible tubes so long that the examiner may keep at a greater distance from the patient. The value of this is seen especially in the case of children, and patients infested with vermin, or in persons in whom the breath is unusually offensive.

The so-called "avitreous" thermometer was also shown. Its chief advantage is in the fact that it will not be readily broken. Some of the members would critcise it on the ground of cleanliness, since it has lines of union which would be difficult to keep free from impurity.

A new double catheter was also shown. The return current is by a series of channels formed by the urethral wall on the outside, and grooves in the metal on the inside. It may answer a useful purpose when it is desired to wash the surface of the urethral membrane.

A new series of antiseptic instruments has an adjustable handle, which allows the metal portions to be readily removed, and thus be subjected to cleansing processes that the ordinary handles would not permit. The instruments were kindly loaned by Messrs. Leach & Greene.

Specimens of the leaves from which the new local anæsthetic,

GLEDITSCHINE,[3]

is derived, and some of the two per cent. solution of the active principle itself were also exhibited. A short description of the circumstances of its discovery [4] and its properties was given.[5]

THE NEW YORK ACADEMY OF MEDICINE.

Stated meeting, November 3, 1887.

Dr. Joseph D. Bryant, Commissioner of the Board of Health, read a paper entitled,

HOW CAN THE PROFESSION AID THE BOARD OF HEALTH?

While there ought undoubtedly, he said, to be the most complete harmony between the two in all matters pertaining to the public health, in the past this had by no means always been the case, and they had, as a rule, been much greater strangers to each other than they ought to have been. He believed, however, that they should both labor with common purposes, the prolongation of human life and the alleviation of suffering. It was the province of the Board of Health to deal more particularly with the prevention of disease, and of the medical profession with its treatment; but the preventive measures of the Board ought, of course, to meet with the active and cordial support of the profession.

Dr. Bryant first gave a sketch of the organization of the Board under the recent head of the Department, General Shaler, in which there were seven divisions, all subject to a semi-military system. From a practical point of view, however, this system was found to be more ornamental than useful, and circumlocutory rather than thoroughly efficient. He then spoke of the present organization of the Board, and described the more important changes which had been introduced under the administration of President Bayles.

Among these was the relieving of the medical officers of the Board from the duty of making general inspections; one which was now performed by a corps of lay and police sanitary inspectors. There were forty-five members of the sanitary police corps, each having charge of the inspections in one of the forty-five districts into which the city was divided, and it was their special duty to systematically and thoroughly inspect all the tenement-houses in their respective districts. The lay sanitary inspectors were fifteen in number, one to each of the fifteen larger districts into which the city was divided. It was their duty to make inspections of buildings other than tenement-houses, to investigate complaints made by citizens, and to deal with problems too deep for the sanitary police, by whom such problems were referred to them. All the medical sanitary inspectors are now detailed to the department of contagious diseases, and it was their duty to at once visit the locality of any case of contagious disease reported to the Board, and see that proper measures for isolation, disinfection, etc., were promptly and thoroughly carried out. When, in any instance, it was found that suitable medical treatment could not be pursued, or that isolation of the patient could not be secured, they would advise that the case be removed to the hospital. They were especially charged that they were to coöperate in every way with the medical attendant in charge of the case, and always treat the latter in accordance with the strictest rules of professional etiquette.

The medical officers were thus restricted to work entirely professional, and the most ample opportunities were afforded by the present system for the scientific investigation of disease. In order to further this object, promotion and the increase of salary were made dependent on faithful and intelligent service. In the department of contagious diseases was included the bureau of vaccination and contagious disease in animals, and employed in the latter were expert diagnosticians in this special field. In addition the services of Drs. T. Mitchell Prudden, of the College of Physicians and Surgeons, and Hermann M. Biggs, of Bellevue Hospital Medical College, had been secured as Pathologists by the Board. The utility of this measure had already been demonstrated in the determination of the true character of a suspected case of Asi-

[3] The Alkaloidal Active Principle of the Gleditschia Triacanthos, or Thorny Locust. (Journal of Am. Med. Association, October 15, 1887, p. 500.)

[4] See Medical Record, October 1, 1887, p. 445, et seq.

[5] See also Am. Journal of the Med. Sciences, October, 1887, p. 519. The Medical News, September 3, 1887, and Journal of Am. Medical Association, September 17, 1887.

atic cholera at quarantine, by the cultures of bacilli found in the discharges of the patient.

Convenient and comfortable means were provided for the transfer of patients to the hospitals of the Board, and the admirably constructed Willard Parker Hospital, at the foot of East 16th Street, was fitted up with all the modern appliances for the successful treatment of disease. It had accommodations for seventy-five or one hundred cases of diphtheria and scarlet fever, an efficient house-physician, and a medical board consisting of such men as Drs. E. G. Janeway, Joseph O'Dwyer, Stephen Smith, George F. Shrady, D. M. Stimson and A. Jacobi. The Reception Hospital was also under the supervision of the same medical board. On North Brother's Island were the fine new small-pox hospital and five pavillions, each with accommodations for twenty-five or thirty patients, for contagious diseases other than small-pox. On this island there was also considerable unoccupied space on which temporary structures could be erected in case of emergency. Every provision was thus made for the comfort and welfare of patients suffering from the various forms of contagious disease.

The Board was at this time paying special attention to the matter of contagious disease, and the urgent need of this was sufficiently attested by the fact that from the 1st of January to the 30th of September of the present year there were no less than 1575 deaths from diphtheria reported in the city. There was entirely too much indifference on the part of the public to such affections as diphtheria; while a single case of a disease like cholera, the prevalence of which would seriously interfere with the business interests of the community, would at once cause profound excitement and receive the greatest possible attention. The Board had great odds to contend against, as it was estimated that from fifteen to twenty-five per cent. of the cases of contagious diseases occurring in the city were never reported by the medical attendants in charge of them. It was estimated also that from twenty-five to thirty per cent. of the births were unreported.

Dr. Bryant concluded this portion of his paper by referring to the provisions of the Board of Health for carrying out the work of the Bureau of Vital Statistics, for the examination of food, the enforcement of the laws regulating the construction of tenement-houses, etc. He then proceeded to answer the question, How can the Profession aid the Board of Health? This could be done, he thought, in the following ways:

(1) By reporting at once all varieties of nuisances dangerous to life or health.

(2) By promptly reporting all cases of contagious disease. In this way many valuable lives could be saved and epidemics could be averted.

(3) By enforcing strict isolation and employing suitable disinfectants and antiseptic measures in cases of contagious disease.

(4) By reporting all cases in which isolation cannot be secured or proper medical treatment be carried out.

(5) By visiting the Willard Parker Hospital and thus being able to speak from personal observation of the advantages which it affords.

(6) By being careful not to send patients with contagious diseases to the dispensaries.

(7) By heartily coöperating with the medical inspectors of the Board of Health in any case in which the latter are met with.

(8) By reporting all food or drink adulterations coming under notice.

(9) By reporting any instance observed of decaying fruit or other kind of unwholesome food offered for sale.

(10) By reporting all defects in plumbing, light and ventilation observed in houses visited.

(11) By paying special attention to the sanitary condition of the homes of patients.

(12) By promptly reporting all births. This was of special service in securing the more general vaccination of infants.

(13) By the appointment of a committee of physicians, not less than five in number, to confer with the Board of Health, whenever such conference seems desirable, on all matters pertaining to the public health.

DISCUSSION.

DR. E. G. JANEWAY said that the suggestions made by Dr. Bryant covered most of the matters in which the profession could be of service to the Board of Health. The importance of reporting all cases of contagious diseases could not be over-estimated, and the statistics of disease could never be made accurate until every physician was willing to report every case he met with. He had known the recurrence of small-pox in New York to be due more than once to unreported cases of the affection. The benefit of reporting all cases of typhoid fever, for instance, had been repeatedly shown in England, in enabling the authorities to trace the origin of the trouble to contaminated milk. The relation of contagious diseases to the public schools was a matter of vital importance, and it was absolutely essential that the school officers should be promptly informed of the existence of a contagious disease in any family, a member of which was one of the scholars. It was also highly desirable that physicians should report every case of *suspected* contagious disease coming under their observation. Public opinion in sanitary matters was moulded by the medical profession, and it should be the aim of the latter to inspire the public with confidence in the Board of Health. Otherwise, the influence and efficiency of the Board would be seriously impaired.

The good work done by the Bureau of Vaccination had undoubtedly been the means of successfully controlling small-pox in the city during the last few years, and it was essential that this should be continued in the future, and that even more vaccinations should be made than in the past. When, as was occasionally the case, unfavorable circumstances attended vaccination, it was not uncommon to hear physicians intimate (and usually without adequate reason), either that the virus used was bad, or that it was contaminated with syphilis. Such slighting remarks did a great deal of harm, and he had known them to be the means of preventing a large number of vaccinations, as reports of this kind were apt to spread through tenement-houses.

DR. A. N. BELL, editor of the *Sanitarian*, spoke of the occurrence of sore throat and other troubles in a family as the preliminary symptoms of bad plumbing, which, if the defects were not remedied, would sooner or later eventuate in diphtheria, enteric fever, or membranous croup. He believed that nine-tenths of the houses in New York were still badly plumbed, as they were built before the present laws in regard to plumbing were enacted. The importance of securing the attention of the Board of Health in such cases

was, therefore, self-evident. He also spoke of the preliminary symptoms of defective ventilation, which would finally terminate in pneumonia if the trouble was not corrected, and said that the great mass of cases of pneumonia occurred in children and old people, who were largely confined to the house. It was also a fact that eighty-four per cent. of the cases of phthisis occurred in those living indoors.

Dr. Andrew H. Smith said that it seemed to him that a new era in the sanitary history of New York had been marked by the appearance of an official representative of the Board of Health, like Dr. Bryant, before the medical profession of the city, to ask for their coöperation in its work. In the past, there had not been those cordial relations between the two which should have been the case, and the Board of Health had been regarded very much as an athlete who struck out from both shoulders, aiming its blows, on the one side, at the public, and, on the other, at the medical profession. He had always believed that the Board should be the outcome of the profession, and be in full sympathy with it; and he could not but feel that Dr. Bryant's paper would be of great service in promoting the sentiment of a community of interests. When medical men could be convinced that the Board was a part of the profession, its usefulness would be greatly increased, and he had little doubt that, from this time forth, such would actually be the case.

Dr. C. R. Agnew expressed much the same sentiments as Dr. Smith.

Mr. Bayles, President of the Board of Health, who was present by special invitation, said that he had been gratified to note the gradual increase of interest in the work of the Board on the part of the medical profession during the past seven or eight months. At first, he had encountered much hostile criticism from physicians; but now there was a much better understanding, and this, he believed, was to a large extent due to the influence of Dr. Bryant, who, since his appointment as Health Commissioner, had been unintermitting in his endeavors to increase the efficiency of the Department. As to the plumbers of the city, at the time when he assumed the Presidency, they were unanimously and most cordially opposed to the Board, which they regarded as an unintelligent, hostile power. He visited the Master Plumbers' Association, and invited its members to join him in a revision of the plumbing ordinances, and the result was that now, instead of being out of sympathy with the Board, and opposing obstacles to its work, they acted in hearty coöperation with it. In the same way, he had endeavored to conciliate other lay interests, leaving to Dr. Bryant the business of dealing more particularly with the medical profession. Mr. Bayles asked for the moral support of the profession when the Board was unjustly assailed by the newspapers, as was sometimes the case, and spoke of the advantage it would be to the Board, when it presented its budget of expenses to the Board of Estimate and Apportionment, to have a committee of physicians of high standing in the community to testify to the importance of its needs. In conclusion, he said that, with the coöperation of the medical profession, there was nothing which the Board of Health could not accomplish, while, without such coöperation, it was powerless.

The President, Dr. A. Jacobi, said that, from his personal knowledge, he could state that there were very few private houses in the city where scarlet fever and diphtheria could be treated under such favorable circumstances as at the Willard Parker Hospital. It was to be regretted that its advantages were not more fully appreciated by the profession and the public, but he did not doubt that the time would come when several such hospitals would be required in the city. When a case of scarlet fever or diphtheria occurred in one of the crowded tenement-houses, it was a pretty safe prediction to make, that, within a month, from five to ten per cent. of the children living in the house would be dead. If all the well children could be at once removed to other localities, it would be the best thing to be done; but, as this was manifestly impossible, the next best thing was to remove the sick at the earliest possible moment, and he said he could not let this opportunity pass without endeavoring to impress upon the gentlemen present, especially those engaged in dispensary practice, the great importance of sending children from the tenement-houses to the hospital.

On motion of Dr. Ellsworth Eliot, the President was authorized to appoint a Committee of five Fellows of the Academy (of which he himself should be one) to confer with the Board of Health in the manner suggested by Dr. Bryant in his paper.

The President introduced Dr. H. W. Boone, Professor of Surgery in St. John's Medical College, Shanghai, who spoke of

MEDICAL WORK IN CHINA,

and made an appeal for contributions of books to the medical library, and of specimens to the museum at Shanghai, which it was designed to make the medical centre, as it was already the commercial metropolis of the country. Such contributions may be sent to the care of the Rev. Wm. S. Laryford, 22 Bible House, New York.

Recent Literature.

A System of Obstetric Medicine and Surgery, Theoretical and Clinical. By Robert Barnes, M.D., and Fancourt Barnes, M.D. 8vo. pp. 884. Philadelphia: Lea Brothers & Co., 1885.

The advent of this treatise has been eagerly awaited by obstetricians, and a work of surpassing excellence expected from the distinguished senior author: we regret to be obliged to express our disappointment. Apart from numerous errors, the diffuse and pedantic style of the book renders it unsuitable for students; and an underlying vein of egotism and conceit will make its use distasteful to many practitioners.

While the space at our command will not warrant a critical examination of the work, we would express our especial disappointment in the chapter on the Puerperal Fevers. Only two pages are accorded to the consideration of the agency of microscopic organisms in causing puerperal infection, and the teachings on prophylaxis are painfully inadequate and absolescent.

That the book is without value to specialists competent to use it, we by no means intend to imply. Teachers will often doubtless turn to its pages in making comparative references; and careful perusal will reveal many pearls of wisdom from the rich experience of Robert Barnes.

THE BOSTON

Medical and Surgical Journal.

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THE FIFTEENTH ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

THE meeting of the American Public Health Association, in session from the 8th to the 11th of this month, at Memphis, Tenn., appears to have brought together a very large representation of the sanitary authorities of the country, as well as members of the medical profession and others interested in public health questions.

The place itself furnished a striking object-lesson; brought to the doors of destruction by the fearful epidemics of yellow fever in 1878–79, it flourishes now in greater prosperity than ever. The death-rate has been much reduced, and the excellent system of small sewers, constructed by Col. Waring, drains effectively all of the city now connected with it. A good water-supply is still wanting, but several plans are now under consideration, from which the needed relief is expected.

The people of Memphis believe that they owe much of their sanitary improvement to the Association and the National Board of Health. They were, therefore, glad to welcome their guests, and did make the meeting a most enjoyable affair.

Dr. Sternberg, the President of the Association, has quite recently returned from his scientific mission to Mexico and Brazil; whither he had been sent by the President of the United States, for the purpose of studying the inoculations of Carmona and Freire, for which so much has been claimed. It was naturally to be expected that some of the results of his observations would be presented at this meeting; the somewhat peculiar instructions, under which Dr. Sternberg acted, forbade, however, any publication whatever, of his conclusions until the final report should have been made to the President.

Dr. Sternberg's address is of very great interest, and deserves a careful reading by all who are interested in the scientific side of the questions relating to the prevention of disease. He is one of the very few, who have, on this side of the Atlantic, made original investigations in the study of the harmful microörganisms; and has, under the painful limitations to which national sanitary investigations in this country are subjected, made contributions of generally recognized value to our knowledge in this direction. A concise statement of the present condition of bacteriology, founded largely on personal experiments, was the main feature of the address.

The question of a permanent National Health Authority, was given a prominent place in the proceedings of the Association. We notice with satisfaction, that the President recommends the establishment of a Bureau of Public Health in the Department of the Interior, a plan advocated by this journal since it became evident that a National Board of Health could not be reconstituted. The Association adopted the recommendation and appointed a committee to bring the matter to the attention of the next Congress.

A defence of the New York Quarantine Station against the many criticisms that have been made upon its quite inadequate equipment and defective administration, was attempted by Dr. A. N. Bell, of New York. Though his statements appear to have been made by authority, they produced a most convincing impression of the shameful condition of the quarantine service at our principal port of entry.

The contrast between New York and New Orleans was very distinctly marked, when Dr. Holt, of the State Board of Health, of Louisiana, read his account of the quarantine station below New Orleans and its operation.

New York allows Dr. Smith, the Health Officer of the port to receive, in one way or another, the enormous compensation of more than fifty thousand dollars, as generally reported, and spends almost literally nothing in extension or maintenance of the station. New Orleans, notwithstanding that she has replaced, by Dr. Holt's energetic administration, the fears of the whole valley of the Mississippi by well-grounded confidence, is still able, after paying fair but moderate salaries, to spend large sums of money in the improvement of her quarantine service. All the fees received in quarantine are spent for its benefit.

The Association passed, without material opposition, an emphatic vote of lack of confidence in the New York station, and there was a decided expression of feeling on the part of many of the western representatives, that it might yet be necessary to find their protection from the negligence or indifference of New York in inter-State quarantine.

Dr. Councilman's description of his recent work in the investigation of malarial fever, and his beautiful demonstrations of the plasmodium of Laveran, occupied one of the evening sessions and was thoroughly appreciated.

Mr. Lomb, of Rochester, who has, in previous years, been so generous a contributor to the resources of the Association, again offers two sums of five hundred and two hundred dollars respectively, for two prizes to be given to the best papers upon the prepa-

ration of healthy food for people in moderate circumstances.

Rudolph Hering, C. E., read a very interesting account of the present aspects of sewerage in its relations to stream pollutions, followed by a statement from Dr. Abbott, of Massachusetts, of the extensive investigations in this direction now going on, under the authority of the State Board of Health.

Altogether, the Memphis meeting may be regarded as one of the most successful in the history of the Association.

A PRECURSOR OF PASTEUR.

In connection with the communication of Dr. Goodale, in a recent issue of this Journal, the profession may be interested to read the following, taken from the *Cronica Médico Quirurgica* of August, 1887, a monthly published in Spanish at Havana:

Dr. Eusebio Valli received the degree in medicine from the University of Pisa, about the year 1778. In 1793, and afterward, he wrote in English a treatise on animal electricity, the phenomena of which were observed by him previously to the naturalist of Berlin. He found, in experiments with frogs, that the motive power of animal electricity was unnecessary to cause muscular action, inasmuch as it could be produced by striking a nerve with any substance whatsoever. He devoted special study to epidemics and infectious diseases, of which cholera and yellow fever were chief. Anatomy, physiology, and hygiene were subjects of his scientific scrutiny.

In 1799, at Leghorn, he made various anti-rabical inoculations, using saliva from mad dogs. One of the combinations was saliva, with gastric juice of the frog: none of the animals thus treated became affected by rabies. These experiments were communicated to the sanitary inspectors of Paris, who ordered the writings of Dr. Valli to be burned.

The views on phthisis expressed in his treatise thereon would have seemed paradoxical but for the rash erudition displayed. Having noticed that smallpox and *la peste* did not exist at the same time in a community, he surmised, in 1785, that the severity of the latter might be lessened by inoculation of variolous contagion. The account of the experiments *in re* upon himself did not show that one morbific agent protected from the other. Similar trials with various materials in different combinations were made, the *modus operandi* of which is given in his note-book on *la peste;* this was published during 1805, while he occupied the Chair of Chemistry, and served as chief physician to the hospital in Mantua. Some years later, still holding rank as surgeon in the French forces, he came to the United States (Philadelphia) to study yellow fever. When told of the danger, he replied that he meant to continue experimentation, as already done in Europe and Asia, trusting to destiny, believing that his end would not be ignoble, and that philanthropists would honor his tomb.

"Convencido del carácter contagioso de la fiebre amarilla, me propongo inocularme con el sudor de los moribundos ó con la bilis de los cadaveres modificando el venem con los mismos reactivos de que me serví en mis ensayos con la peste del Oriente. Si esta escrito en el libro del destino que yo perezca victima de ese grande experimento, mi muerte no será sin gloria y los filántropos de esta region afortunada correrán en tropa á exparcir sobre mi tomba olorosas flores."

Not finding at once material for observation in the States, he went to Havana, where he died from yellow fever a few days only after arrival, in 1816, being forty years of age.

In the eulogy on Dr. Valli, read in Havana, 22d of November, 1816, Dr. D. T. Romay, in a note, says: "I have never seen this disease (yellow fever) terminate on the third day of its invasion: on the contrary, it is noticed that the fever and symptoms then intermit for eight or ten hours, this being a phenomenon which distinguishes it from other fevers."

Dr. Valli's portrait was accorded a place in the Public Library at Havana. Besides being a member of the Accadémia Virgiliana of Mantua, of various medical, scientific, and literary bodies, he was honored by the medical fraternity of Edinburgh. In his life, published by José Valli in 1886, may be found an entertaining and instructive narrative of the experiences and methods in research of one travelled in many lands — Asia, Europe, America — whose large knowledge, solid judgment, and active spirit cause noble emulation in the ambitious student, while his sacrificing of self for others endears him to our human heart.

THE CASE OF THE CROWN PRINCE OF GERMANY.

Recent developments in the case of His Imperial Highness show that the early diagnosis of his German physicians was right, and that other opinions subsequently expressed were wrong. The Crown Prince has been suffering from malignant disease of the larynx. It has been malignant from the beginning, and has steadily spread. It remains now to be seen how soon tracheotomy will have to be performed as a palliative measure unless the bold procedure of extirpation of the larynx is adopted.[1]

In looking back at the reports concerning this important case which have appeared in different medical journals during the past few months, we are forced to the conclusion that scientific journals, like the daily newspapers, are not always to be relied on, and that it is not easy to diagnosticate laryngeal disease *on paper*. We feel, however, that in this instance, the treatment which has followed the mistaken diagnosis has not in any way influenced the natural course of the disease. The diagnosis of malignant disease of the larynx is not, as a rule, difficult to establish. The gentlemen who have had charge of the Crown Prince have unconsciously allowed their scientific judgment to be

[1] Editorial, Vol. cxvi. p. 618. June 23, 1887.

blinded by their Christian feelings and ardent wishes. Their desire to save a life so happy in its domestic relations, and one so important to the future political history of Europe, prevented them from seeing either with their natural lenses or with those of the microscope the true nature of the disease they had to fight.

If the sufferer had been a German peasant by the name of Schultz, instead of Frederic-William-Nicholas-Charles, Prince Imperial, there would not have been, we imagine, two opinions in regard to the character of the trouble. How far State considerations were allowed to influence the *expression* of scientific opinions, of course only those behind the scenes can tell.

From a strictly professional point of view there are some aspects in the management of this difficult case which might "point a moral and adorn a tale." But with these we need not concern ourselves, at least at present. We have now merely to express our regret that medicine is not always the "art of healing," and that a truly noble life is drawing towards its close.

NAPHTHOL AS AN ANTISEPTIC MEDICAMENT.

BOUCHARD has communicated to the French Academy of Sciences the results of a series of researches, from which it appears that naphthol, one of the derivatives of naphthaline, is an excellent antiseptic, surpassing even iodoform.[1]

Kaposi, several years ago, called attention to the value of this agent in the treatment of certain diseases of the skin, and particularly of scabies.[2] He employs naphthol in a ten per cent. alcoholic solution, or in the form of ointment, and says that one or two applications will cure the most inveterate cases of common itch. For this purpose an ointment may be made with one part of naphthol and ten of vaseline. He has had equal success with naphthol in psoriasis, eczema and ichthyosis, and there is nothing better, he says, to allay tormenting itching of prurigo.

Hensinger [3] also speaks in high praise of naphthol as an external agent (alcoholic lotion or pomade) in the skin diseases mentioned above, in lupras erythematosus and in chancres. Under its use sores of a phagedenic character, rapidly take on a healthy action. Van Harlingen, moreover, has seen favorable results from naphthol in obstinate cutaneous affections.[4]

The experiments to which allusion has been made, have led Bouchard to regard naphthol as one of the best and safest of antiseptics. According to these a three per cent. solution markedly retards the development of the typhoid bacillus, as well as that of the bacillus tuberculosis. The same solution is fatal to the microbes of several of the parasitic diseases of animals, and prevents fermentations. Bouchard gives naphthol internally in typhoid fever, and believes that, if it does not abort this disease, it certainly renders its course milder. He regards a dose of forty-five grains (2.50 grammes) a day as realizing the conditions of intestinal antisepsis, and affirms that in such doses there is no antiseptic agent which is more innocuous.[5] This use of naphthol in typhoid fever has been followed to some extent in this country with apparently favorable results.

[1] Acad. des Sciences, Session October 17, 1887.
[2] Wien. Med. Woch., No. 22, 1881.
[3] Berlin Klin. Wochen., 1883, p. 353.
[4] Am. Jour. Med. Sciences. 1884, p. 479.
[5] Semaine Medicale, October 27, 1887.

MEDICAL NOTES.

— Dr. Macaulay writes to the *Lancet*, that he has attended a woman in her seventh confinement, since the removal of an ovarian tumor by Sir Spencer Wells in 1875.

— "I saw at once," said a physician, who had been called in consultation, "that Dr. Pellet's diagnosis was wrong; but as he was in charge of the case, of course it would not do for me to interfere." — "Did the patient die"? — "Oh yes, died of 'professional courtesy,' a very common and fatal disease." — *Harpers' Bazar.*

— Dr. Watkins, inspector of the State Board of Health of Louisiana, has recently examined the prisoners in the parish prison of New Orleans and reports that he found a number of the inmates suffering from acute dropsy of the legs, arms, face and body, due to confinement and insufficient and unwholesome food. Each prisoner is allowed a piece of bread and a pint of tea early in the morning, and one meal consisting of soup, the beef cooked in the soup, and bread. The beef is supplied by contractor at five cents and a half a pound, and has been repeatedly condemned by the resident surgeon.

— The existence of an inflammatory zone about the umbilicus is one of the signs of medico-legal importance in judging whether an infant has lived after birth. In a recent case Dr. Kirk, of Edinburgh, found such a zone and gave judgment that the child had lived. As the result of subsequent investigation of several cases, he came to the conclusion that if a child lives an hour after birth there will be a slight circle of inflammed tissue about the insection of the cord: this zone becomes more pronounced every hour after birth.

— The October number of the *Journal of the Society for Psychical Research* contains the statement: "It will be remembered that the earliest experiments in thought-transferrence described in the Society's Proceedings, were made with some sisters of the name of Creery; and that, though stress was never laid on any trials where a chance of collusion was afforded by one or more of the sisters sharing in the 'agency,' nevertheless some results obtained under such conditions were included in the records. In a series of experiments recently made at Cambridge, two of the sisters, acting as 'agent' and 'percipient,' were detected in the use of a code of signals; and a third has confessed to a certain amount of signalling in the earlier series to which I have referred. This fact

throws discredit on the results of all former trials conducted under similar conditions. How far the proved willingness to deceive can be held to affect the experiments on which we relied, where collusion was excluded, must of course depend on the degree of stringency of the precautions taken against trickery of other sorts, as to which every reader will form his own opinion." The Creery girls are daughters of a Devonshire clergyman, and were from ten to seventeen years of age when the experiments were originally tried. They were among the first in whom so-called "telepathy" was discovered. The record of the experiments with these girls was one of the most interesting chapters in the society's early history, and the proof of their fraud is correspondingly mortifying. It will probably intensify the scrutiny of the other "sentients."

BOSTON AND VICINITY.

— The Newton Cottage Hospital has just been enriched to the extent of $6,000, which is a gift from Mr. J. R. Leeson, of Newton Centre, in memory of his deceased wife, Mrs. Georgia A. Leeson. The money is to provide for the erection of a ward for women and the furnishing of the same. Mr. Leeson had previously contributed to the hospital what is known as the "Margaret Leeson Fund," in memory of his young daughter, who died but a few years ago. This fund is used for the benefit of sick and crippled children and to provide hospital treatment for them.

— Scarlet fever has been remarkably prevalent in Boston during the last few weeks. At a conference of heads of departments with the mayor, held November 11th, Dr. Durgin, of the Board of Health, referred to the increase of scarlet fever, and said that every effort was being made to suppress it. There are probably about sixty cases at present in the city. He also spoke of the cholera scare, but said that the Board would be prepared for any emergency. Dr. Durgin is reported as saying that he has no doubt but that the digging up of the streets had considerable to do with the increase in sickness.

Dr. Rowe, Superintendent of the City Hospital, at the same conference said that twenty-six children were now being treated — twenty for scarlet fever and six for diphtheria — a larger number of children than the hospital has had for some time. A great many applications were being made for admission to the hospital by people outside of the city, which the trustees had to refuse, owing to the lack of room.

The Board of Health have voted to designate all houses in which there are cases of scarlet fever, by the display of a signal, after the manner which has already been pursued in some country districts.

—At the Harvard-Princeton football match at Cambridge, on November 11th, which was very warmly contested, Holden, the captain of the Harvard (victorious) team, who was playing half-back, sustained a fracture of the sternum, with depression of a portion of the bone.

NEW YORK. — CHOLERA NOTES; DEATH OF DR. O'GORMAN, OF NEWARK, NEW JERSEY.

— Mayor Hewitt has taken the Health Officer of the Port, Dr. Smith, to task for the unsatisfactory condition of affairs at Quarantine, revealed by the investigations of the Committee of the College of Physicians of Philadelphia, and the Committee on Hygiene of the New York County Medical Society. In answer to a letter of inquiry from the Mayor, President Bayles, of the City Board of Health, has recently sent the latter a reply, in which, while he declines to discuss the possibility of cholera reaching New York — a matter involving the efficiency of the present Quarantine management, and beyond his jurisdiction — he gives very satisfactory assurances as to the preparations and facilities of the Health Department for dealing with cases of cholera if any should come into the city. He states that the plan of action of the Department has been carefully considered, and seems to be adapted to every possible emergency. Among the preparations made, the ambulances have been reconstructed, provided with tight bottoms and sides, stripped of all upholstery, and supplied with special facilities for safely moving cholera patients. The mattresses with which they were formerly provided have been removed, and rubber beds substituted. Several sets of blankets have also been provided, in order that it may not be necessary to use the same bedding for two cases without intermediate disinfection. The medical corps is well organized, and every man has been carefully instructed in writing what to do if assigned to cholera duty, and how to do it, while, at the hospitals, there are accommodations ready for as many patients as can be expected under the most improbable conditions. In a word, says Mr. Bayles, the Department is so well prepared, that notice of cholera in the city would take no one connected with it by surprise, and occasion no confusion. The preparations also include the provision of two large tanks in the disinfection-house adjoining the Willard Parker Hospital, which will carry a steam-pressure of twenty-five to thirty pounds — an amount far in excess of the maximum requirements of thorough disinfection.

— The death is announced of the eminent Newark physician, Dr. O'Gorman, who was instrumental in sending the first American patients to Pasteur.

Miscellany.

REFLEXES IN NEWLY BORN CHILDREN.

Dr. Julius Farago has published in the *Gyógyászat*, a Hungarian journal, as quoted in the *Lancet*, some observations he has made in Prof. Ebstein's clinic in Prague, on the reflexes of newly born children. Advantage was taken of the lax state of the muscles of the lower extremities while the child was at the breast to test the patellar reflex. Altogether one hundred and seventeen infants under sixteen days old were examined. In all these the patellar reflex was present

on both sides, but the strength of the jerk varied a good deal. In some cases there was merely a slight, short, sudden extension of the leg. In others the jerk was stronger and followed by a series of oscillations. Frequently a transient clonic contraction of the quadriceps was noticed. In some cases a slight contraction was observed in the quadriceps of the opposite leg. Dr. Faragó found that the knee reflex is stronger immediately after birth than during the second week. Premature and badly-developed children weighing less than three thousand grammes, have a weaker knee reflex than children born at term weighing more than three thousand grammes. The abdominal and eyelid reflexes were also noted. The cremaster reflex was present in all the forty-nine male children except nine, and in these the testicles were high or else hydrocele was present.

A DRUGGIST'S MISTAKE.

BROWN was so unfortunate as to fail in business, and his handsome drug store, on the corner of M and N Streets, in the thriving village of Millbrook, has reverted to the original owners. His mistake was that he was too enterprising, too well posted, and ahead of the intelligence of the place.

He bought Smith's Pharmacy just two years ago, one-third down, and the rest on a mortgage note.

Brown had the laudable ambition to advance pharmacy in Millbrook and make it what it should be. He took the *Druggist's Bulletin* and all the other pharmaceutical journals, and several medical journals, which he diligently read.

The medical profession of Millbrook was represented by four old fogies and one homœopath. The medicines ordinarily prescribed by the regular fraternity were such as may be found described in any edition of the "United States Pharmacœpia" prior to 1860.

Brown had a great zeal for new preparations, nice formulæ, and liked to help out the manufacturing pharmacists. The agents and representatives of the great drug houses were uniformly treated by him with great suavity and politeness, as men who were immensely raising the standard of pharmacy, and who deserved to be encouraged as the benefactors of the race.

He bought a full line of their goods. On his shelves, for instance, were seen all of Schieffelin's Gelatine Coated Pills, a couple of hundred dollars being there invested. Then McKesson & Robbins, John Wyeth & Co., Parke, Davis & Co., were not forgotten. He had great faith in Squibb. He was a diligent reader of the *Medical Age*, and ordered a liberal supply of every new thing. When *Strophanthus* first came out he ordered a pound bottle of it from England, which, being expensive, cleaned out his treasury; this bottle, by the way, still remains on those shelves unopened. He bought all of Declat's preparations — "Soda-Phenic" "Iodo-Phenic" syrups, etc., — and those bottles remain to this day untouched, not one of them sold. There are "compressed pills," by the bushel, and "tablet triturates" a full stock, and other new attractions which physicians have requested him to order, but which they never prescribe. Several ounce packages of antipyrine have long in vain waited a customer. Brown early took an interest in this new febrifuge and analgesic and thought that it would be a good thing to have it on hand. He called Dr. Slowman's attention to this most recent purchase. The doctor shrugged his shoulders and remarked: "I do not go in for these new-fangled preparations, I do not dare experiment on any of my fever patients. Give me some Graves' mixture."

In short, Brown's mistake was that he was "ahead of the times" and ahead of the place. It would have been better for him had he been content to dispense chalk mixture, paregoric, castor oil and such like, which were all that his customers seemed to want. Patent medicines he might have sold by the thousands of bottles, but Brown was too conscientious to have anything to do with that in which he had no faith, and he was too well read a druggist to have faith in patent medicines. There was really no demand for all the different kinds of "prepared food," or for all the various emulsions of cod-liver oil with which he encumbered his shelves, and when Brown was obliged to close up business, these preparations were found to be most of them spoiled.

In the last sentence we have indicated the fate that attended Brown. He was obliged "to close up business"; he could not meet his payments, consequently he failed through too much pharmacy. His successor says that he will take warning from Brown's example, and "stick to Epsom salts and castor oil." He will order nothing for the trade that has not been at least twenty-five years before the medical profession.

Correspondence.

SOUR MILK FOR BABES.

BOSTON, October 31, 1887.

MR. EDITOR, — We all know the importance of careful supervision of reading matter likely to fall into children's hands. Such of us as have boys are particularly interested in making sure that anything savoring of the dime novel is eliminated; and many of us subscribe for reputable children's magazines which are published (presumably) for the purpose of affording rational amusement and instruction to the younger generation.

Last evening one of my children, a bright and imaginative boy of nine (pardon this parental estimate) asked me to read to him from a story (which he qualified as "boss") the concluding chapters of which appear in the November number of one of our most popular children's periodicals. I commenced to read, but concluded very shortly that it was time for the boy to go to bed.

What horrors had been depicted in previous chapters I do not know, but here are a few extracts from those which I perused: A party of children are described as digging in an Indian mound — "Aquilla looked into the hole and shuddered. Yet there was nothing horrible in the white arm bones standing out of the earth with fingers all extended . . . the younger boys stood aside while their daring elders lifted the Indian skeleton to the surface. It rattled and dropped in pieces, but they set it with its still articulated spine against a tree, spread the legs out in front of it and placed the skull at its top. The arms hung down sprawling, the long phalange bones on the turf."

This merry scene, so likely to prove conducive to refreshing sleep in children who are passing through the period of second dentition, is concluded by the sudden appearance of a huge and hairy being with a club — a lunatic — who "could bury them in the hole and mind it no more than if he were chopping up a log"! This pleasing party "with motions of his club ranges them in line" and marches them off to unknown horrors.

In the next chapter a little girl knocks at a lonely cabin in the woods, the door of which is suddenly opened by an old woman whose "fierce eyes, and opening and shutting

her mouth with a gnash of two lone teeth," etc., were what the little girl "objected to"! Inside the cabin there was a great frame work made of dark and heavy timbers extending to the rafters, with mystery in its shadows. This proved to be a loom, "draped at the back to within half a yard of the floor, with long threads hanging motionless. But between the threads and the floor were eight boys' legs . . . she felt speechless with fright, as if she were dreaming a bad dream."

These legs belonged to her little brothers and a friend (the same that the hairy being with the club had captured in the preceding chapter), whose "mouths were swathed tight, shut as if from cold, their hands fastened to their sides, and their feet secured."

Soon the hairy one appears and proposes (as a punishment for desecrating the mound) that the offenders 'thumbs be at once cut off and buried with the disturbed skeleton. Fortunately the threatened mutilation is prevented by "Uncle Roseladies" (apparently a sort of Rollo's father and Belfast Spider combined in the person of a verbose old gentleman), who knocks out the hirsute lunatic in one short but spirited round, and thus terminates what might have proved a disagreeable episode.

Now I ask if this is suitable reading for children? Why not return to the Bloody-shadow-of-the-double-handed-sword-or-the-cross-of-the-Antilles style of literature which we used to surreptitiously absorb in boyhood days before the present fashion of children's periodicals came in vogue? In conclusion I quote from the prospectus of the *Wide Awake* (ominous title!) magazine:

"Think of a life not only unhurt by wrong reading and pictures, but helped by right reading and pictures all the way through"! Very truly yours,

JOHN SMITH, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 5, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	565	201	17.10	16.20	2.34	1.08	9.00
Philadelphia	993,801	314	105	12.16	14.40	1.60	1.60	8.64
Brooklyn	745,108	344	134	24.60	12.00	1.80	3.00	14.70
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	141	56	26.98	12.78	3.75	2.84	14.20
Boston	400,000	198	70	18.87	15.81	4.59	3.06	7.14
New Orleans	242,750	109	37	20.24	11.04	2.76	.92	9.20
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	92	24	20.20	16.16	2.02	11.11	2.02
Pittsburgh	210,000	80	30	46.25	6.25	2.50	13.75	30.00
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	18	9	22.22	5.55	16.66	5.55	—
Charleston	60,145	23	7	8.70	21.65	4.35	—	4.35
Portland	40,000	15	0	26.66	20.20	—	—	20.00
Worcester	68,383	23	6	21.65	4.35	4.35	8.70	4.35
Lowell	64,051	21	6	19.04	23.80	4.76	9.52	4.76
Cambridge	59,660	—	—	—	—	—	—	—
Fall River	56,863	23	9	17.40	17.40	4.35	—	4.35
Lynn	45,861	15	4	13.33	20.00	—	—	13.33
Lawrence	38,825	8	1	—	12.50	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	17	9	17.64	17.64	5.88	—	11.00
Somerville	29,992	9	—	77.77	—	22.22	—	—
Salem	28,084	11	4	9.09	9.09	9.09	—	—
Holyoke	27,894	11	3	—	—	—	—	—
Chelsea	25,709	12	—	16.60	25.00	—	—	—
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	4	2	50.00	25.00	25.00	—	25.00
Gloucester	21,713	3	1	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Newton	19,759	4	0	—	—	—	—	—
Malden	16,407	8	1	25.00	25.00	—	12.50	—
Fitchburg	15,375	4	1	—	—	—	—	—
Waltham	14,609	1	0	—	—	—	—	—
Newburyport	13,716	6	1	16.60	50.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,079: under five years of age 721; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 425, consumption 208, acute lung diseases 208, diphtheria and croup, 208, typhoid fever 60, diarrhœal diseases 57, scarlet fever 38, malarial fever 25, cerebro-spinal meningitis nine, puerperal fever eight, whooping-cough seven, erysipelas five. From scarlet fever, New York nine, Brooklyn and Boston eight, each, Philadelphia and Somerville three each. Fall River and Chelsea two each, Portland, Pittsburgh and Malden one each. From malarial fever, New York and New Orleans seven each, Brooklyn six, Philadelphia and District of Columbia two each, Baltimore one. From cerebro-spinal meningitis, New York and Philadelphia three each, District of Columbia, Worcester and Somerville one each. From puerperal fever, Philadelphia, Baltimore and District of Columbia two each, New York and New Orleans one each. From whooping-cough, Baltimore four, New York and Brooklyn one each. From erysipelas, Brooklyn two, New York, Philadelphia and Newburyport one each.

In the 20 cities and larger towns of Massachusetts with an estimated population of 979,911 the total death-rate for the week was 20.40 against 19.82 and 18.93 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending October 22d, the death-rate was 19.8. Deaths reported 3,502: infants under one year of age 797; acute diseases of the respiratory organs (London) 370, scarlet fever 117, whooping-cough 62, measles 59, diarrhœa 56, fever 52, diphtheria 38, small-pox (Sheffield seven, Bristol one) eight.

The death-rates ranged from 15.8 in Halifax to 26.4 in Manchester; Birmingham 17.7; Hull 19.6; Leeds 22.7; Leicester 20.4; Liverpool 19.6; London 19.4: Nottingham 17.2; Portsmouth 18.5; Sheffield 19.3.

In Edinburgh 20.8; Glasgow 18.4; Dublin 24.1.

The meteorological record for the week ending November 5, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
Saturday, Nov. 5, 1887.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...30	30.02	39.0	49.0	34.0	77.0	92.0	90.0	86.0	N.W.	N.	N.W.	12	12	12	F.	O.	F.		
Monday,..31	29.95	38.0	45.0	27.0	78.0	59.0	69.0	69.0	N.W.	S.E.	N.	8	4	15	C.	O.	C.		
Tuesday,.. 1	30.09	38.0	42.0	35.0	76.0	51.0	68.0	65.0	N.	N.	N.	12	24	14	O.	F.	C.		
Wednes,.. 2	29.96	44.0	56.0	28.0	65.0	28.0	45.0	46.0	N.	W.	W.	8	6	14	C.	C.	C.		
Thursday, 3	30.01	45.0	54.0	42.0	45.0	79.0	85.0	70.0	W.	E.	S.	12	12	8	C.	C.	C.		
Friday, ... 4	29.71	53.0	66.0	43.0	100.0	53.0	69.0	74.0	S.	S.W.	W.	8	24	24	C.	F.	C.		
Saturday,. 5	30.08	33.0	49.0	32.0	65.0	30.0	70.0	55.0	W.	N.W.	N.W.	12	24	6	C.	C.	C.		
Mean, the Week.	29.974	41.4	51.0	33.0				66.4											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 5, 1887, TO NOVEMBER 11, 1887.

GREENLEAF, CHARLES R., major and surgeon. Par. 8, S. O. 248, A. G. O., October 25, 1887, directing Surgeon Greenleaf to visit the recruiting depots and rendezvous at certain places, is amended to include Davenport, Iowa; Quincy, Ill., and Evansville, Ind. S. O. 257, A. G. O., November 4, 1887.

LORING, LEONARD Y., captain and assistant surgeon. Ordered for duty at Fort Mojave, Ariz. Ter., upon the expiration of his present sick leave of absence. S. O. 258, A. G. O., November 5, 1887.

PERLEY, HARRY O., captain and assistant surgeon, now on duty at Fort Wayne, Mich. Ordered for temporary duty with troops stationed at Highwood, near Chicago, Ill. S. O. 258, A. G. O., November 5, 1887.

IVES, F. J., first lieutenant and assistant surgeon. Granted leave of absence for one month, to take effect on or about the 15th inst. S. O. 113, Department of Platte, November 5, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 12, 1887.

HEYL, T. C., surgeon. Detached from the "Marion," proceed home and wait orders.

CRAIG, T. C., passed assistant surgeon. Detached from the "Marion," proceed home and wait orders.

WELLS, H. M., medical inspector. Detached from the "Trenton," proceed home and wait orders.

PECK, GEORGE, medical director. Ordered to Washington, D. C., as member of Examining Board.

AYRES, JAS. G., surgeon. Ordered to the "Galena," to relieve Surgeon F. L. DuBois.

DUBOIS, F. L., surgeon. Detached from the "Galena," proceed home and wait orders.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING NOVEMBER 12, 1887.

FESSENDEN, C. S. D., surgeon. Detailed as chairman of Board for the physical examination of officers of the Revenue Marine Service, November 1, 1887.

MEAD, F. W., passed assistant surgeon. Detailed as Recorder of Board for the physical examination of officers of the Revenue Marine Service, November 1, 1887.

BEVAN, A. D., passed assistant surgeon. Relieved from duty at Portland, Ore., ordered to Marine Hospital, New York, November 2, 1887.

CARRINGTON, P. M., assistant surgeon. Relieved from duty on Revenue Steamer "Rush," ordered to Marine Hospital, San Francisco, Cal., November 2, 1887.

PERRY, T. B., assistant surgeon. Relieved from duty at Marine Hospital, San Francisco, Cal., ordered to assume charge of Service at Portland, Ore., November 2, 1887.

GOODWIN, H. T., assistant surgeon. Relieved from duty at Norfolk, Va.; ordered to Marine Hospital, New Orleans, La., November 5, 1887.

WYMAN, WALTER, surgeon. To proceed to Louisville, Ky., and Memphis, Tenn., as inspector, November 2, 1887.

URQUHART, F. W., passed assistant surgeon. Relieved from duty at Cape Charles Quarantine; ordered to Norfolk, Va., November 6, 1887.

MAGRUDER, G. M., assistant surgeon. When relieved, to rejoin station at Chicago, Ill., November 3, 1887.

DEATH.

Died in South Boston, November 12, 1887, Charles Edward McGowan, M.D., M.M.S.S., aged thirty-six years.

BOOKS AND PAMPHLETS RECEIVED.

Biography of Andrew Nebinger, M.D. By J. H. Grove, M.D. Philadelphia, 1887.

"Intracerebral Hæmorrhage in the Young." By B. Sachs, M.D. 1887. (Reprint.)

Natural Law in the Business World. By Henry Wood. Boston: Lee & Shepard. 1887.

On the Operative Surgery of Malignant Disease. By Henry T. Butlin, F.R.C.S., etc. Philadelphia: P. Blakiston, Son & Co. 1887.

On the Advantages of a Compound Salicylated Plaster in Dermatological and Surgical Practice. By Hermann G. Klotz, M.D. 1887. (Reprint.)

First Annual Report of the Ophthalmological Department of the State Hospital at Norristown, Pa., for the Year 1886. Ophthalmologist, Charles A. Oliver, M.D.

Report of an Inspection of the Atlantic and Gulf Quarantines between the St. Lawrence and Rio Grande. John H. Rauch, M.D., Secretary, Illinois State Board of Health. 1886.

Practical Recommendations for the Exclusion and Prevention of Asiatic Cholera in North America. By John H. Rauch, M.D., Secretary, Illinois State Board of Health. 1884.

Transactions of the Association of American Physicians. Second Session. Held at Washington, D. C., June 2 and 3, 1887. Philadelphia: Printed for the Association. 1887.

Nasal Polypus with Neuralgia, Hay Fever and Asthma in Relation to Ethmoiditis. By Edward Woakes, M.D., London. With illustrations. Philadelphia: P. Blakiston, Son & Co. 1887.

Some Observations upon Pelvic Cellulitis. By Virgil O. Hardon, M.D., Professor of Obstetrics and Diseases of Women and Children, Atlanta Medical College, Atlanta, Ga. 1887. (Reprint.)

The Arrangement and Construction of School Sanatoria. By Charles E. Paget, Medical Officer of Health for the Westmorland Combined Sanitary District; Hon. Sec. Epidemiological Society. London: J. & A. Churchill. 1887.

On the Existence of "Dermatitis Herpetiformis" (of Duhring) as a Distinct Disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital, etc. New York: Wm. Wood & Co. 1886. (Reprint.)

The Principles of Theoretical Chemistry, with Special Reference to the Constitution of Chemical Compounds. By Ira Remsen, Professor of Chemistry in Johns Hopkins University. Third edition, enlarged and thoroughly revised. Philadelphia: Lea Brothers & Co. 1887.

Original Articles.

CASES ILLUSTRATING THE LATE MANIFESTATIONS OF CONGENITAL SYPHILIS.[1]

BY ABNER POST, M.D.

THE heredito-syphilitic infant is very likely to cease to show symptoms of his disease before the end of the second year. Apparently, many patients show no further signs of the disease; others go on without manifestations of the disease until about the age of puberty, or later. With others, the disease manifests itself at irregular intervals, so that they present a history of nearly continuous trouble, or of more or less frequent outbreaks. The first two years, then, comprise the early symptoms of hereditary disease, those that correspond with the secondaries of acquired syphilis; and the symptoms that come later, may be classed as late hereditary disease.

The evidences of late hereditary syphilis may consist in the evidences of previous lesions, in the modifications of growth that take place under the influence of the disease, and in lesions still active at the time when the patient appears for advice.

The evidences of previous trouble may vary very greatly, according to the age of the patient, and the character and severity of previous lesions.

It is an interesting question whether the later forms of the disease ever occur without the previous occurrence of earlier — infantile — manifestations. Such a question is equivalent to the question whether acquired syphilis ever shows its late forms without any early secondary manifestations. It is certain that we find late forms of the disease, both acquired and hereditary, in which we fail to find any evidence of earlier trouble, or, at best, but very questionable evidence, and certainly, cases in which previous disease is positively denied.

The late hereditary form of the disease assumes the same protean aspects as do the later forms of the acquired disease. Probably all the forms of acquired syphilis may appear in the hereditary disease. It presents the same difficulties of diagnosis, and is amenable to the same treatment as the more familiar acquired disease. I have selected a few cases which will serve to emphasize some of the peculiarities of the hereditary disease in its later aspects, and to illustrate some of the advantages of treatment.

Some of my cases are defective, in that disease in the parents is not fully established. This would be a serious objection were I attempting to prove that syphilis may be inherited. That syphilis is transmitted from parent to offspring, it is unnecessary to prove. My cases all show, at least, that the disease existed very early in the life of the child, so that they have essentially modified its growth, and its hereditary character, when not proven, is, at least, exceedingly probable.

CASE I. M. Her father, now dead, was known to have had syphilis before the patient's birth, according to the mother's story. The child was first seen by the writer in 1883, at the age of eight, when she complained of several points of periostitis, circumscribed to round spots, on various bones. She also showed cicatrices where similar spots had gone on to suppuration and extrusion of bone. Some of these spots were still open; others showed cicatrices adherent to the bone. There were also other large, circular, thin, white cicatrices not attached to bone. She was, in general, small for her age. Her mouth showed, at the corners, well marked radiating cicatrices, of the existence of which the mother was ignorant. This fact, that the mother had never noticed the scars, will, perhaps, illustrate their insignificance. At the same time, they were, and still are, exceedingly well marked. The mother recalls the fact that the child had an exceedingly sore mouth when about two years old. Of the cicatrices adherent to the bone beneath, the oldest, on the dorsum of the right hand, was said to have originated at the age of eighteen months — about the time at which the child was weaned.

She was put upon specific treatment, and did well, the sores healing, and the periostitis disappearing, but, by the advice of friends, she was transferred from my care to that of a man who was able to promise more — a well-known irregular practitioner, a vegetarian — who took away her specific medication, and under whose care she rapidly grew worse. In the fall of 1884, when nine years old, she returned to me, with the right side of her face hideously swollen. The swelling was due to disease of the superior maxilla. The upper teeth on the left side were loose, and several were removed. The bone was, however, dead, and she entered the City Hospital on November 10, 1884, in the service of Dr. Cheever, who removed through the mouth a portion of the upper jaw, which contained all the teeth of that side, permanent, as well as deciduous. The wound reopened, and discharged an offensive pus for some time; a few bits of bone were exfoliated, and the wound healed soundly, and has given little trouble since, save such as was inevitable from the loss of bone, which threw nasal and oral cavities together. During the healing of the wound, there were various threatening symptoms, which, I feel sure, would have gone on to further destruction of bone but for vigorous treatment. Since the cicatrization, the symptoms have been very few — some slight fissures at the nasal orifice, some indefinite rheumatoid pains, a slight vaginitis — none of which could have been considered syphilitic had they occurred in any other child, and localized tender spots over various bones, which made us fear further trouble.

She has continued under treatment almost constantly, increasing the dose as some slight symptom excited my apprehension, and varying from iodides to mercurials, as circumstances seemed to indicate.

At present, she is a large girl of twelve, nearly the height of her mother, well developed and strong — a marked contrast in general condition to the child, as I saw her, between four and five years ago.

She illustrates most completely the advantages of persistent treatment. Outbreaks of periostitis were controlled by the anti-syphilitic remedies. When one such attack was allowed to go without adequate treatment, the bone died, and its removal was obligatory. A return of treatment was followed by equally happy results, as at first. I can but feel that, in her case, the favorable condition is the direct result of medication. In this case, there can be no question of the nature of the disease, and of its hereditary character.

CASE II. Miss C. Father and mother both dead. Father died at about forty, in an insane asylum, of general paralysis. When first seen, the patient, seven-

[1] Read before the Boston Society for Medical Improvement, October 24, 1887.

teen years of age, was suffering from extensive necrosis of both tibiæ. One leg was greatly shrunken and contracted about the knee, rendering it impossible to straighten that leg. The bone was exposed in several places. At least, two-thirds of the skin below the knee was either ulcerated or formed of cicatricial tissue, the result of previous ulcerations. The other leg was in a similar condition, though less marked. These spots had all commenced as periostitis, with great pain, gradually going on to ulceration and exfoliation of bone. This condition had commenced before the age of four. Previous to that time, no history was obtainable. On other bones, this young woman presented various spots of periostitis.

In general, she presented an exceedingly immature aspect, and might easily have passed for several years below her true age. The head presented a most marked appearance from the height of the forehead, which deserved the epithet Olympian. There was also a tendency to especial thickening about the frontal eminence, while the features were almost infantile. The legs and the spots of periostitis were the seat of atrocious pains.

Under large doses of the iodides, with small doses of mercury, the pains vanished, the ulcers partially cicatrized, and the patient was able to walk somewhat, and enjoyed comparative comfort far beyond my highest expectations. Later, pains attacked her head — periostitis was evident on the frontal bone. The patient became unmanageable, and absolutely refused the iodides, the periostitis went on to destruction of the bone and the loss of the greater part of the frontal bone above the orbital ridge.

In this case, it is not so easy to establish absolutely either the specific or the hereditary nature of the disease. The father died at an age a little early, perhaps, for general paralysis, but his malady was not regarded as of specific origin by the attendants, though they would not say that it was not syphilitic.

Simultaneous disease of so many bones is rare, unless from syphilis and destruction of the skull, unless from traumatism, must be exceedingly rare, unless syphilis is a cause.

This case illustrates very well the effect upon growth of the disease. The child is not merely stunted — it remains in many ways undeveloped, and appears, both in bodily and mental development, behind its actual years. This condition is best described under the term infantilism, and will be further illustrated.

The way in which the disease has stuck to the bones, leaving all other parts of the body untouched, is very noticeable. Although large portions of the integument have been destroyed, it is only a secondary process, the local trouble commencing always with the periosteum, the ulceration taking rise below the true skin. The effect of medication is also strikingly illustrated. Of great service when properly taken, the disease ran its course freely when the patient refused further adequate treatment.

Infantilism is marked much more strongly in the following case, which may, perhaps, be considered an extreme instance of such stunted growth. The case also shows the concentration of the disease upon the bones, and also a tendency, at the same time, to attack the nervous system.

CASE III. E. Consumption in mother's family; father in poor health. Is the youngest of several children; others well. Was born at full term, but weighed four pounds only. At three years of age, weighed twelve pounds. When quite a child had a rash, which was general. Was taken to a hospital, and mother overheard the doctors say the eruption was syphilitic. Has always complained of pain in different parts of the body, like rheumatism.

April 9, 1884, was at the Children's Hospital with a large periosteal swelling at the lower ends of both humeri; one of these swellings had broken, and a sinus communicated with the bone. The other swelling was painful, and exceedingly tender. No other active trouble. In the fall of 1886, the following note was made:

'She is twelve years old, but, when standing by the side of a child of six, the height of the two children, as well as the general development, is practically the same. Her head shows a massive forehead, with protruberant frontal eminences. Her features were infantile. Nasal bones flattened. Her lips fell in, like those of an old woman whose teeth are gone, and alveoli atrophied. Her corneæ showed several opaque spots, and there was a discharge from one ear. Her teeth presented several peculiarities, too numerous for description. The upper central incisors were stumpy and notched in the centre, while the lower central incisors were remarkably small, and deformed by a similar, but more marked central notch. There seemed to be, also, a lack of development in the alveolus of both jaws — a deficiency which explained the falling in of the lips. The lower end of one humerus was thickened and enlarged, and presented a cicatricial depression, adherent to the bone below. Through the ulceration, of which this cicatrix was the remains, bone had evidently been exfoliated. The other humerus presented, at the corresponding spot, a considerable thickening, and there was a very evident inflammation of the periosteum in progress.

In February of the present year, she complained of "nervous spells." Said that she felt as if she was in a boat, which was rocking and going to tip over. Everything seemed going round. These attacks always occurred at night, and lasted about an hour, and were always followed by nausea and vomiting. There was no loss of consciousness. The attacks occurred three times during one week. Under iodide of potass they entirely disappeared. She eat prodigiously, and grew fat. During the spring she had a sudden attack of deafness, for which no reason could be assigned, and which disappeared.

The nervous attacks were never seen by any one save the family, but they caused the child great suffering. She spoke of them with the greatest dread while they lasted, and, after they ceased, with thankfulness at their departure. The attacks certainly resembled the attacks of giddiness which occur in certain cases of acquired syphilis with cerebral manifestations, and they vanished entirely under the influence of the iodides.

The source of the disease in this child is not evident, but the diagnosis is, I believe, beyond dispute.

A more marked case of cerebral symptoms in hereditary disease occurred in the following case:

CASE IV. H. S. The patient is a Russian Pole by birth. His English is very imperfect, and it is exceedingly difficult to converse with him. He knows very little of his parents. States that he was well up to December, 1885, when, at the age of eighteen, he was

suddenly taken with an epileptiform convulsion, which occurred in the night, and of which he had no recollection in the morning. The convulsion consisted of spasmodic movements in left arm and leg, and frothing at the mouth. A few days later, he had another attack, and was found on the floor in the morning (December 18th), and was sent to the hospital on the same day. Entering the nervous and renal service at the City Hospital, he complained of pain in left arm and leg. Temperature 99.4° pulse 80, respiration 20. Movements of left hand irregular and spasmodic. On protruding tongue, marked twitching of muscles on left side of nose and mouth, and, on drawing over corner of mouth, there was some spasmodic twitching of muscles at lower border of chin. Reflexes normal; heart normal. Urine normal, acid, 1010; no albumen. Discharged on the 21st, three days afterwards, *well*. Subsequently, he continued well up to June or July, 1886, when he noticed several small bunches on neck, forehead, and various parts of the body, especially about the head. In October, he re-entered the Hospital, this time in the surgical service. To the eye, he presented an exceedingly curious appearance from the swellings about the skull. The largest and most prominent one at the date of admission to Hospital was situated at the middle of the forehead, extending down over the bridge of the nose, and reaching nearly the size of an ordinary hen's egg. On each side of the forehead was one a little smaller.

In general, he may be said to be a little under size, though not strikingly so. Examination disclosed several other swellings, in addition to the bunches mentioned, scattered over the skull, and one on the clavicle. The bunches were not painful or tender, and did not fluctuate, except that the largest swelling, that in the middle of the forehead, gave some pain, as it could hardly fail to do from its size alone.

On October 6th, examination of the urine, which, it will be remembered, was recorded as normal in December, 1885, nine months previous, showed it to be pale, slightly acid, 1010; slight trace of albumen, with hyaline and granular casts. He passed forty-five ounces in twenty-four hours.

On November 3d, urine was 1004½. Slight trace of albumen, with hyaline and fine granular casts.

February 9th. Passed ninety-seven ounces of water. Under treatment, some of the lumps grew smaller, some suppurated. He grew better, and again worse. Ulcerations formed on his legs. He finally entirely lost hearing. Had intense headache, continued vomiting, and he died worn out. No autopsy obtained.

When I first saw him, examination disclosed faint cicatrices radiating from the angles of the mouth. The upper central incisors were worn smooth, showing a worn and blunted surface at each corner, and a sharp edge at the centre, such as would be presented by a worn-down notch. Various cicatrices over different portions of the body. The Hutchinsonian teeth were, in this case, obliterated by the wearing from persistent use. The lower teeth were similarly worn, having sustained a loss of substance fully equal to that of a man of forty-five or fifty.

This case is in some respects the most interesting of the series. The cicatrices at the corners of the mouth, and the worn-down Hutchinsonian teeth, mark the case as hereditary. Gummy periostitis is not a very common form of disease; at least, it has seldom fallen under my notice. The epileptic attack would not be a very rare occurrence in acquired syphilis. As a result of hereditary disease, it is not very frequent, but the renal disease is even more exceptionable as a result of syphilis, either acquired or hereditary.

Case V. Kate C., aged ten. So far as the mother knows, there have been no venereal accidents in the family. She has herself always been well. Her husband had, six years ago, a paralytic attack. Without known cause, he was attacked with pain in the right thumb, and his right arm gradually became helpless. Then the left arm was similarly affected. The paralysis is not complete, and the two arms are unequally affected. No other paralysis exists. Her first four children were still-born at seven and eight months. The fifth child was the patient in question, now ten years old, who had snuffles when a baby, and has always been sickly. Her sixth and seventh children she says, are strong and well, but they have never been seen. Here we have an anomalous nervous affection in the father, and a series of miscarriages preceding the birth of the first living child — a history which does not prove syphilis, but would render its existence exceedingly probable.

The child was in the Hospital, under the care of various surgeons, for necrosis of the tibia. Her corneæ were both hazy. Her upper central incisors showed, instead of a notch, a central portion where the Hutchinsonian notch ought to be, of a dark-colored substance, the dentine uncovered by enamel. She showed a curious deformity in a deficiency in the superior alveolar arch at the anterior portion, so great that when the teeth were brought firmly together, the upper and lower incisors were so widely separated that the little finger could nearly be introduced. The tibia was several times operated upon before it was brought to heal. During her stay in Hospital, she had an attack or two of erysipelas, and some furuncles.

In these cases, the bones are specially the subject of disease, while the manifestations on the skin are either ulcerations consecutive to disease of bones, or active processes are wanting. The next case to which I wish to refer shows exactly the reverse; that is, the trouble is principally located upon the skin.

Case VI. M. D. I saw the boy first in November, 1886; referred to me by Dr. H. W. Cushing. His father is a man of dissolute habits, who has deserted his child. Though no reliable history of syphilis can be elicited, he certainly belonged to a class which seldom escapes it. Mother died when the boy was three years old, of quick consumption, but without a cough. No history of the child as an infant until he was six months old. The first thing noticed by the aunt who now cares for him was a dactylitis, which came on at the age of two-and-a-half years, and still exists.

When first seen by me, there was a marked dactylitis of the middle finger of the right hand, and of the middle finger and thumb of the left hand. There were a few white, depressed, irregularly-rounded cicatrices on the arms, of perhaps the size of a nickel. On the face, neck, right cheek, back of left hand, both arms, behind both knees, and near the head of the tibiæ, were ulcerations partially covered with prominent, dark, thick crusts. Upon the parotid region, particularly, the skin about the ulceration was infiltrated and partially undermined. The left ankle was greatly swollen, reddened on the inner aspect and

apparently the subject of deep-seated disease. On its outer aspect, it was covered with thick crusts, like those on various other parts of the body. The whole shaft of the left tibia was somewhat enlarged. The boy had been under treatment by cod-liver oil without benefit. His appearance was so revolting, that, at school, he had been given a seat in the entry, and finally forbidden to attend school at all.

The diagnosis of congenital syphilis seemed most favorable and was reached on the character of the bony lesions in the fingers, and of the ulcerations, with their resulting cicatrices and crusts. Dactylitis exists from other causes than syphilis, but, united with other suspicious lesions, it can but add to the probability of syphilis. The cicatrices could hardly be due to any other cause than syphilis, and the existing lesions on the skin resembled closely ulcerated tubercles of acquired syphilis, though more numerous and more freely suppurating than ordinary. The failure of cod-liver oil to ameliorate the condition added its weight in diagnosis. The child was dosed with iodide of potash, and his numerous sores were dressed with unguentum hydrargyri. He remained under treatment four months, and was watched by the class at the Dispensary. During that time he took his medicine with a certain amount of regularity, but it was difficult to supply sufficient mercurial ointment to keep the sores covered. The improvement in the boy's condition was marked from the first, though, perhaps, not very rapid. When I ceased to attend at the Dispensary, I lost sight of the boy for a time. Seen again on October 22d. He has had no treatment for five months. During that time, his ulcers have remained stationary. He is fat and hearty — greatly improved from the condition in which I saw him first. His aunt says he never improved so much as when taking the iodide. It is to be noticed that he lives on equality with his aunt's family, and in the closest intimacy with a little cousin some years younger, but none of the family have ever suffered in the slightest, the danger of infection being absolutely nothing from a child in so advanced a stage of the disease.

The following case was brought to my attention only two days ago, simultaneously by Dr. DeBlois and Dr. H. L. Smith, of the Superintendent's office of the Boston City Hospital. She shows a decided concentration upon the throat, while both skin and bones are free from active trouble.

CASE VII. S. J., twelve years old. Father dead of phthisis. Mother suspects that he may have had syphilis, but can give no symptoms. He was a gambler, and, in general, a doubtful character. The mother, in giving her own history, admits nothing that points to syphilis, but her character differs from that she attributes to her husband. There is *nothing doubtful* about it. As to the child, the mother gives the following history:

When three months old, the child had a "wheezing." This became better, but, at fifteen months old, she had a "catarrh," characterized by a discharge from the nostril. At two years old the child could talk pretty well, not being hoarse, although she sometimes complained of sore throat, and was short of breath. About a year ago lost her voice, though the voice is at sometimes better than at others. Has been growing deaf in right ear during the past six months.

Examination shows a child of good size for her age, of high forehead, with so marked an enlargement at the frontal eminences on each side as to make the head practically square-cornered in front. The nose is slightly flattened, but not very markedly. The right central upper incisor is slightly notched, and when the teeth are brought together, the incisors fail to meet, being separated, at least, an eighth of an inch. Nothing else noticeable about the bony frame-work. Over the left frontal eminence is a cicatrix, and, at the corners of the mouth, are faint radiating lines of cicatrix, which are noticeable only on careful inspection, but are unmistakable. The only other cicatrices discovered are three or four on the lower part of the trunk or buttocks behind. These scars are white, irregularly rounded, from an eighth to a quarter of an inch in diameter.

There is a slight opacity in each cornea, and the child is too deaf to hear any ordinary conversation—a deafness which has come on gradually during the past year. Her voice is scarcely more than a hoarse whisper. There is also increased rapidity of respiration and some dyspnœa. Dr. DeBlois reports extensive cicatrization of pharynx and larynx, and swelling of both arytenoids, with anchylosis.

Without attempting to discuss the symptoms that should make one suspicious of hereditary syphilis in a child past infancy or a young adult, I wish to say a word or two in regard to some of the symptoms prominent in these cases. Although the Hutchinsonian teeth are well-known there are facts in regard to their life history not so well-known, as pointed out by Mr. Hutchinson. The teeth at first do not always possess the typical notch, but the place which will later become a notch is filled with an imperfect and discolored dentine as seen in Case V. In later years the tooth wears down until the notch is destroyed — a process exemplified by Case IV.

The girls, Cases V and VI, also shows another peculiarity mentioned by Mr. Colman, the dentist, who examined the first cases with Mr. Hutchinson, viz., a lack of developement of the alveolus of the upper jaw.

He is quoted by Mr. Hutchinson in his first paper on the deformity of the teeth as follows: "In nearly every case there is a deficiency in the superior alveolar arch at the interior portion, so great in some patients that the upper and lower incisions are a considerable distance apart from each other when the mouth is shut."

I have laid some emphasis upon the cicatrices at the corners of the mouth. The lips of babies of a few weeks are often covered with erosions, whence flows a virulent fluid which forms yellow crusts; that alteration is usually too superficial to leave traces. Often after the age of three months the malady causes upon the lips a certain number of fissures which may attain the depth of one and even two millimetres on the upper lip on each side of the lobule and on the lower at the median fissure, frequently also at the commissures. "There are few syphilitic infants who escape these syphilides of the labial commissures." [Fournier]. In this last spot the loss of substance is much more extended. These fissures cause cicatrices in those who bear them, which are more apparent the deeper, and of longer duration the syphilides have been.

The cicatrix may be scarcely or not at all visible upon the mucous membrane since the lesions upon the

mucous membrane heal with less apparent cicatrices than those upon the true skin.

These cicatrices are so slight that they are only visible on close inspection. No deformity is present, and the non-medical friends may not know of the existence of such lesions. These cicatrices at the commissures of the lips are considered as quite characteristic of inherited syphilis, and I believe correctly, but I am far from saying that similar scars cannot be due to other causes than syphilis. I have seen one case in which scars in that spot were due to another cause. They exist in the person of a lady who, when hardly more than an infant, had scarlet fever at the same time with two older sisters, with a very sore throat which throat was treated by applications of nitrate of silver which she resisted with all her strength, and the applications were undoubtedly applied to all the vicinity. She is described as having had an awful mouth and has carried these scars ever since, and one might be pardoned for thinking them syphilitic. Close examination shows that the scars in this case lack the linear form characteristic of the disease.

Cases in which there is disease of several bones are open to suspicion and should lead to investigation. I am by no means ready to say that necrosis or caries may not exist in several bones in a child or young adult without that child or young adult being a victim of syphilis, but I think the chances are many to one that syphilis would be at the bottom of such a case. That probability is still stronger if the symmetrical bones are attacked. The terminal extremities of the long bones are specially liable to suffer. I am inclined to think that the necessity for treatment in these late cases is not fully appreciated. They need to be treated in the same way and as carefully as the acquired cases, and perhaps even more persistently. Treatment was not universally successful in the cases I have narrated. The young man, Case IV, died, a result almost inevitable from the grave character of the lesions, but in other cases the results of treatment were brilliant, and I think I may say the success depended in great measure upon the faithfulness with which it was carried out. Practically the same plan that is pursued in so-called tertiary disease in the adult is adapted to these late inherited lesions; that is, a treatment into which the iodides enter largely in conjunction with mercurials. In some cases the iodides need to be given in large doses.

NERVOUS SYMPTOMS FROM OCULAR DEFECTS. THEIR RELIEF BY MECHANICAL AND MEDICINAL MEASURES.[1]

BY R. W. AMIDON, M.D., NEW YORK.

The subject of nervous symptoms from ocular defects has been voluminously written upon by ophthalmologists, but it is from the standpoint of a neurologist that it will be now approached.

That such a presentation may be somewhat novel and perhaps instructive is my only apology for writing upon a subject so trite.

People suffering from symptoms plainly referable to the eyes generally consult an ophthalmologist at once; but in a certain proportion of cases, the relation between the nervous symptoms and the ocular defect not being very clear, the general practitioner or the neurologist is consulted. It is this class of cases with which the present paper has to deal: Cases in which the phenomena are chiefly sensory and resemble the symptoms of organic or functional disease of the nervous system. In selecting these cases care has been taken to exclude those of organic disease of the nervous system and eyes, and cases of functional disease where the symptoms were of extra-ocular origin.

The most common nervous symptoms referable to ocular defects are variously located headaches, occipital, vertical, temporal, frontal and general; various paræsthesiæ about the head, back of neck, shoulders and back; neuralgias, hemicrania, vertigo, staggering, diplopia, nausea, confusion, ptosis, photophobia, etc.

The ocular defects giving rise to these varied symptoms are, insufficiency, hypermetropia, myopia, astigmatism and presbyopia, either alone or in simple or very varied combination.

After a careful scrutiny of many cases, one hundred and sixty-two were found with sufficiently perfect histories to deduce the following conclusions:

(1) Patients in whom insufficiency of the internal recti muscles is a prominent defect are very apt to suffer from sensory disturbances in the occiput, nucha, shoulders and back. These disturbances may take the form of acute or dull pain, a heavy pressure feeling or various paræsthesiæ, hard to describe and at times exceedingly annoying to the patient.

(2) Patients in whom insufficiency of the other recti is prominent do not appear to be subject to occipital disturbance, but, next to asthenopic symptoms, which are almost always present, seem to suffer most from vertigo, diplopia and confusion.

(3) In hypermetropia and hypermetropic astigmatism the most frequent complaint, aside from asthenopia, is of frontal headache.

(4) In myopic and mixed astigmatism, frontal, temporal and general headaches are about equally common.

(5) In cases combining hypermetropia and myopia with presbyopia, frontal, temporal and occipital headaches and vertigo are present in about equal proportions.

(6) In pure myopia and presbyopia nervous symptoms are seldom prominent.

The natural inference to draw from these facts is that where there are sensory disturbances about the occiput and nucha, particularly if made worse by use of eyes, the internal recti muscles should be tested with a fair prospect of finding them weak, provided the symptoms alluded to do not depend upon organic disease of the nervous system or acid, flatulent dyspepsia.

When vertigo, unsteadiness, diplopia, and confusion with asthenopic symptoms are prominent, one can look with considerable confidence, in the absence of organic nervous or vascular disease and anæmia, for a disturbance of the equilibrium of the superior, inferior or external recti muscles. When frontal headache with asthenopia is prominent, strongly suspect hypermetropia or hypermetropic astigmatism, unless constipation, catarrh of the frontal sinus or Bright's disease is present.

In general headaches or different combinations of frontal, vertical, temporal and occipital varieties, in the absence of other provoking causes, always suspect and examine the eyes.

Many factors, besides use of the eyes, aggravate

[1] Substance of a paper read before the New York Academy of Medicine, Section on Neurology, October 14, 1887.

these various paræsthesiæ; excitement, worry, debility, fatigue and exposure to hot or confined air.

The relief of nervous phenomena due to ocular defects by the use of accurately adjusted correcting glasses is almost too well known to refer to.

I must, however, make one exception to this statement, and that is in respect to the treatment of insufficiency of the recti muscles. My opinion is that correcting prisms, when properly used, are much more often curative than is generally thought.

In the first place adjuvant medicinal treatment is very often utterly neglected. Experience teaches me that sufferers from insufficiency of the ocular muscles are seldom if ever well. An anæmic condition is often present; a neurasthenic, debilitated state from overwork, worry, excesses, confinement, etc., is very common; dyspeptic ailments are often seen, while the various paræsthesiæ, from which the patient suffers, induces a frame of mind, certainly despondent and hypochondriacal and often bordering on the melancholic.

For the anæmic condition I prescribe iron with bitter tonics, nux vomica, quinine or quassia and perhaps a laxative as belladonna, rhubard or aloes in small doses.

In the neurasthenic and debilitated state an anæmia is often present and must be treated. Other tonics than iron seem at times indicated, and phosphorus, cod-liver oil, and occasionally alteratives such as arsenic, mercury or iodide of potassium seem beneficial. Laxatives are often needed and mild vegetable ones should be employed.

Plenty of digestible, nourishing food is needed in all these conditions, but in none more than in this state of neurasthenia, which so often means only mal nutrition. Supplemental meals should be insisted upon if needed and, unless contraindicated, some alcohol in the form of milk punch or egg nog should be added to the dietary. At bedtime particularly, is this indicated, to help relieve the partial insomnia from which these patients often suffer. This insomnia is sometimes quite marked and annoying and demands special treatment. Chloral and the bromides should generally be avoided, the former because of its irritant action on the eyes, and the latter of their debilitating effects.

Our chief reliance should be upon simple measures, such as food or alcohol, or both at bedtime, and these failing, mild narcotics, such as assafœtida, camphor, valerian or cannabis, should be tried, opium being reserved for rebellious cases.

Dyspepsia occurs alone or with the foregoing condition; the most common form seen in these cases being the acid and flatulent variety. The most prompt relief is obtained from a diet rather free from starch and sugar, and the use of dilute nitro-hydrochloric before or an alkali after eating or both. A condition of intestinal dyspepsia often calls for carminatives and laxatives which, as a general thing, should be gentle and vegetable. Rhubarb, aloes or podophyllum in small doses, assisted by belladonna should suffice.

The melancholic tendency of these patients is very often relieved by treating the anæmic, neurotic or dyspeptic condition so often present at the same time. When general treatment fails, correction of the existing ocular defect often completes the cure. Occasionally, the depression is so marked as to call for a mild cannabis and opium course.

A rheumatic element sometimes crops out, often in conjunction with the neurasthenic state, and it should be met by the oil of wintergreen, the salicylates, alkalies or counter-irritation.

Instability of the circulatory apparatus, so often seen in these cases, should be met by general tonic treatment and digitalis.

The patients, therefore, presenting themselves with an insufficiency of the recti muscles, are carefully examined and then put upon appropriate medicinal treatment as outlined above, each case being studied by itself. Sometimes a few days of this treatment will appreciably lessen this weakness of the recti muscles, particularly if rest be super-added.

When, after two or more examinations glasses are ordered, the refractive errors, if there are any, are properly corrected, while prisms, representing about three-quarters of the insufficiency in the case of the interni or externi, and equal to the entire insufficiency in the case of the superior or inferior recti, are added.

The amount of the insufficiency varying with the general health and strength, examinations of the recti should be made from time to time, when if the patient's general condition fails, the insufficiency will increase, and perhaps demand stronger prisms, while, if health and strength be regained, the insufficiency will rapidly lessen and disappear in favorable cases, rendering a discontinuance of the prisms possible.

This latter has been the result in at least three-quarters of my cases.

With respect to medicinal treatment, almost the same remarks will apply to those cases where errors of refraction only exist. All will attest that these errors of refraction often produce no symptoms until the nervous resistance or general health break down. Then all of a sudden a hypermetropia or astigmatism which has for years lain dormant, will suddenly give rise to most distressing symptoms.

As a counterpart to this, we see cases in which correcting glasses, worn for months, are finally discarded as unnecessary, the nervous strength and general health having been sufficiently restored to allow the patient to ignore strain produced by an ocular defect.

Medicinal treatment is of extreme importance in this class of cases also, and is, I think, too commonly ignored. The general line of treatment is the same as in cases of insufficiency, less reliance being placed upon special tonics such as strychnia and more upon a general tonic course.

A CASE OF RECURRENT PARALYSIS OF THE MOTOR OCULI.[1]

BY O. F. WADSWORTH, M.D.

THE case which I wish to report appears to belong to a class characterized by a very distinctly defined group of symptoms. At intervals varying in length both in the individual cases and the same case, there occurs paralysis of all the branches of one oculo-motor nerve. The duration of the paralysis also varies. Always, it is the same nerve that is affected, the other nerves remaining free. In most cases, possibly in all, the attacks are preceded, or, at least, accompanied by headache, confined to the corresponding side of the head, and chiefly localized in the frontal region.

Pauline and Frances, twins, were born of healthy

[1] Read before the American Ophthalmological Society.

parents, both of whom are still living and well. There were five other children in the family, two older, three younger than the twins. With the exception of a girl, the second after the twins, who died at eleven months of "congestion of the brain," all were healthy. In June, 1874, when the twins were nearly three years old, both had scarlet fever, and both had a discharge from the ear. Both seemed to recover well and to be healthy for some time afterward, although in both a slight discharge from one ear continued, and Pauline had occasional headaches.

Although Frances is not the one whose case I present, it may be of interest to follow briefly her history, as it seems to have a bearing on the etiology of the other case. In September, 1877, when six years old, three years after the attack of scarlet fever, she began to complain of headache. The headache returned more frequently and was of longer duration till the following December, when she had a convulsion. Three weeks later convulsions recurred, and the attacks became more frequent until, finally, they occurred almost daily. About the middle of March, 1878, after a convulsion, she complained that she could not see. A week later, March 21st, she was admitted to the nervous department of the City Hospital. On the same day, I found well-marked optic neuritis and many white spots around the macula in both eyes. May 13th, Dr. J. Orne Green found the left membrana tympani much thickened and drawn in. She remained in hospital eleven weeks. The headaches and convulsions ceased, and the discs became atrophic. Sight did not return. I saw her again February 24, 1879, in the out-patient department. She had had an occasional headache since leaving the Hospital, but was otherwise, excepting her blindness, well, well nourished, of good development, rosy-cheeked. She could only distinguish light from darkness. The pupils were large; the optic discs presented the appearance of atrophy following neuritis. Since that time, I learn that she has been well, free from headache, and has had no discharge from the ear. She is now a pupil at the Perkins Institution for the Blind, in South Boston.

Pauline, the subject of the oculo-motor paralysis, after the scarlatina in the summer of 1874, had attacks of headache every month or two; in the early part of 1878, headache for several hours each day during three weeks. The monthly or bi-monthly headaches continued, and, on February 24, 1879, being then seven years old, she was brought to the hospital, with her sister, having suffered from headache daily for two weeks. The headache was referred to the right supra-orbital region; was said to commence every day about noon, to intermit about three, and to recur about five and then continue some four hours. There was vomiting on the first two days. Appetite impaired; dejections and micturition normal; tongue clean; general appearance good; a slight discharge from right ear; swollen glands behind each ascending ramus of jaw. Dr. Green examined the ears, but my notes state only that he found inspissated pus in the right. The right eye was quite normal, its refraction nearly emmetropic; the left eye highly myopic, with a regular crescent of one-third to one-half the diameter of the disc.

March 29, 1880, she was seen again. Meanwhile, headache every month or two, usually ushered in with vomiting, and lasting one to three days. When free from these attacks, she had appeared perfectly well. She was at this time suffering from headache which had lasted a week, the pain referred, as always, to the right supra-orbital region. There was vomiting at the beginning of the attack. She moaned in her sleep. Tongue clean; dejections regular; pulse 100, temperature 98.8°. Five or six days after this attack began, ptosis and divergence of the right eye was noticed.

There was paralysis of the right motor oculi. In other respects, the condition of the eyes as before. Dr. Green again examined the ears, but my notes only describe the condition he found in the left. Its membrana tympani was much drawn inwards and opaque from swelling, and there were several spots of ecchymosis. Its hearing was very fair.

At the end of February, 1887, Pauline came again to the Hospital. She was now fifteen, well grown, and apparently healthy. Her headaches had diminished in frequency; for the last few years, she had had three or four each year, lasting from one day to two weeks, the more severe ones being accompanied by complete ptosis of the right eye and dilatation of the pupil. She had noticed no diplopia at these times, and no special change in the position of the eyeball. She stated that the ptosis and dilated pupil always continued till the headache was over, and then gradually passed off, so that at the end of a week or ten days they had entirely disappeared. The latter statement was probably incorrect, and I shall refer to it again. She had just recovered from a headache of two weeks' duration, accompanied by vomiting. There was a moderate amount of ptosis of the right eye, and nearly complete paralysis of all the other muscles, external and internal, innervated by the right motor oculi. Moderate divergence. The external rectus and superior oblique acted normally. Fundus of both eyes as before. She was seen again twice, at intervals of two or three days.

March 4th, there was a little more movement of the eye inward, upward, and downward; a little more action of the pupil and of the ciliary muscle. R., V. $= \frac{2}{3}\frac{0}{0}$. L., with -14 D., V. $= \frac{2}{3}\frac{0}{0}$. Field normal. She promised to come again but did not.

April 24th, I visited her at her home. There was still a slight droop of the right upper eyelid, decided impairment of movement of eye upward, moderate impairment of movement downward, and inward. The pupil did not react fully, and power of accommodation was imperfect for her age. She was, however, conscious of no defect of motion in the eye, nor aware that the pupil was affected. This was eight weeks after cessation of the headache, and it is probable, therefore, that previous paralyses had not passed off completely, as she had stated, especially as her father had observed that her eyes usually appeared not quite straight. That she should never have been troubled by diplopia is not surprising in consideration of the great myopia and imperfect vision of the other eye.

I was unable to see the mother, who was away at the time of my visit, but the father was positive that the attacks had diminished in frequency of late years, the last severe one having been in the previous July, an interval of seven months. Another fact of much interest I first learned from him, that with each severe attack, toward the end of the period of headache, there was a free discharge of ill-smelling fluid from the right ear, staining the pillow, and requiring syring-

ing for some days. At my request and representation of the importance of treatment of the ear, she visited Dr. Green on May 6th. He found a large polypus completely filling the right meatus and removed it, but after two or three visits she ceased attendance.

These cases apparently occur but rarely. I have found but fifteen reported,[2] with one exception already collected by Mauthner, although very possibly some publications during the last year have escaped my search. And of these fifteen, several are very meagerly reported, two in such a way that it seems by no means certain that they properly belong to this category. On the other hand, with one exception, reported by Gubler in 1860, (Mauthner has recently published notes of a case seen in von Graefe's Clinic in 1864), the earliest observation published was in 1882, so that it is probable that the number of reported cases will increase considerably in the immediate future.

The sex is not mentioned in one of the doubtful cases; of the remaining fifteen, including mine, four were males, eleven females.

In the two cases I have regarded as doubtful the side is not given; of the other fourteen, in seven the right, in seven the left motor oculi was affected.

The age at which the paralysis first appeared is not given in three cases, including the two doubtful ones; in one it occurred at eleven months, in one at eighteen months; the latest date, with one exception, is fourteen or fifteen years. The exception is a case briefly referred to by Buzzard,[3] a woman of thirty, "subject for years to paroxysms of facial tic, recurring about every fortnight, and concentrated more or less definitely in the ophthalmic division of the fifth nerve." Within the last year or two each attack had been followed by partial paralysis of the oculo-motor, the paralytic condition lasting for a few days. One of the attacks he observed.

The varying length of the intervals between the attacks has already been noticed. In the case just cited it was shortest — two weeks. In von Hasner's case the attacks recurred every month, and although preceding by two years the establishment of the catamenia, after their appearance were coincident with them. In most cases the interval was not a regular one, and lasted from a few months to a year. In Gubler's case there were two intervals of three years, then one of sixteen years before the last attack, which was followed a fortnight after its commencement by death.

The period of headache varied, even in the same patient, in one case from one day to several weeks. And a similar difference appeared in the duration of the paralysis. Although the patients often are said to have stated, as in my case, that the paralysis passed off completely in the intervals, there is, I believe, in no case the definite statement that its entire disappearance was observed by the reporter. On the other hand, in several instances, evident remains of the paralysis were observed to persist between the attacks.

With four exceptions, it is distinctly stated that pain resembling megrim accompanied the attacks. Of the exceptions, Gubler's patient was seen only some days after the paralysis was established; the case is reported very briefly, but it is said that the man had all his life been subject to violent attacks of megrim. Weiss's case is also very briefly reported (the patient was of little intelligence and unfamiliar with the German language); nothing is said of pain. The other two are the cases classed as doubtful. These were reported in a discussion which followed a report of a case by Snell.[4] In one, by Ormerod, it is not clear that there were ever more than two attacks; the patient was an elderly woman; the Argyll Robertson symptom was present, but the knee-jerk not wanting. It is stated that there was pain in the region of the supra-orbital nerve, but nothing to suggest megrim. Of the other, by Beevor, we learn only that he "had seen a similar instance in which exposure to cold winds were (*sic*) assigned as the cause." Perhaps both these cases had better have been omitted from the list.

Only in one case, that of Thomsen, was there observed contraction of the field of vision during the attack, and here the concentric contraction was found in both eyes, although of much less amount in the eye free from paralysis. This case was complicated by epilepsy. The man was thirty-four years old; the recurrent paralysis began at the age of five; the epilepsy first appeared at thirteen years, and followed directly a fall from a ladder which produced temporary unconsciousness.

The course of the disease is extremely variable. In some cases the duration of the paralysis and the intervals between the attacks seem to have continued the same; in some the attacks became more, in others less severe; in some again the periods of freedom became longer, in others shorter. There is no instance of permanent relief, perhaps because the time of observation was not sufficiently prolonged. Three cases terminated in death.

Different interpretations of the cause of the affection have been given. Some have considered it a purely functional disturbance, analogous to ordinary migraine. Others have supposed a tumor or inflammatory process at the nucleus of the nerve. Others again a pachy- or lepto-meningitis, an anomaly of the vessels, or a tumor at the base.

It seems to me very difficult to admit the theory of a purely functional disturbance, especially in view of the partial persistence of the paralysis noted in several cases between the attacks. There are also difficulties in the way of an assumption of a disease-process at the nucleus, lasting for many years, extensive enough to involve all branches of the nerve, subject to frequent exacerbations, and yet never affecting any other nerves, either of the same or opposite side. A basal origin appears more probable.

The results of autopsy in the three fatal cases also point to the base as the seat of the trouble. Gubler's patient died after a short illness with delirium running into coma. A plastic exudation surrounded the right motor oculi. There were other lesions, but this was the one which seemed best to explain the paralysis.

Weiss's patient died of tuberculosis of the lungs. The right motor oculi was flattened, gray, and showed a tubercular enlargement at the point where it issued from the crus cerebri. The granulations did not extend into the brain substance.

Thomsen's case passed from his observation and died about a year later of gangrene of the lungs. The end of the case was reported by Richter. There was a fibro-chondroma of the right motor oculi, which

[2] Since this case was read a case has been reported by Hinde and Mayer in the New York Medical Record, Sept. 24, 1887.

[3] Clinical Lectures on Diseases of the Nervous System, p. 164.

[4] Lancet, I, 938, 1885.

doubled its size, but had developed in such a way as to separate the nerve fibres without destroying them.

In my own case the history points pretty distinctly to a direct connection between the aural disease and the paralysis of the third nerve. There can scarcely be a doubt that a meningitis was set up by the aural disease in the twin sister. It seems here not unreasonable to suppose an exudation or thickening over a limited portion of the dura, which makes pressure on the motor oculi whenever a re-excitation of inflammation in the ear with retention of pus induces an increased vascularity or swelling. And when it is remembered that the third nerve penetrates the dura some little distance farther forward than the fourth and sixth, it is seen that such a limited thickening might readily be situated so as to affect the third nerve alone.

CASES OF BURNS, WITH SPECIAL REFERENCE TO COMPLICATIONS, SEQUELÆ, AND TREATMENT.[1]

BY JAMES E. CLEAVES, M.D., OF MEDFORD.

Bryant's remark, so often quoted in surgical treatises, that "half the cases of burn admitted into a hospital die, and half of those that die do so within the first three days," whether proved to be true or not, certainly carries with it some hint at the gravity of such cases. Of course, in a general practice, one meets with fewer, and, as a rule, with less severe cases than are seen at a hospital. Now and then, cases more or less severe, or characterized by more or less embarrassing complications, come under the care of the general practitioner, and the importance of the subject grows, as the increase in causes brings greater liability to these accidents. Without claiming to bring to your notice anything peculiar in the following cases or methods of treatment, it is the purpose of this paper to refer to cases illustrating, in a small degree, some of the complicating features of severe burns, and to speak briefly of treatment applicable in these and similar cases.

Case I. A feeble lady, aged seventy years, was badly burned about the whole front of the right arm and right breast, from her clothes taking fire. The burn was especially severe near the axilla and over the breast. From her age and general weakness, her system was in such a condition that the shock from this burn of comparatively small size was very severe. When seen first by me, she was in a state of marked prostration, with very feeble pulse, and with alternate attacks of chilliness and fever. The pain of the wound was very great, and, for its relief, morphia was used subcutaneously, while brandy and beef-tea were given as stimulants. Warmth from hot-water bottles and blankets was applied externally until reaction came. This case illustrates the fact evident in all severe cases of burns, that the early treatment must be of a constitutional, rather than of a local nature. The wound itself may be left untreated for the time being, but immediate attention is required in severe cases to allay the patient's pain, and to lessen the violence of the shock. The time of the infliction of a burn is one of the chief periods of danger; according to Heath, fifty per cent. of the fatal cases terminating during the period of shock. Pain is a most constant symptom in burns, unless they be of such a serious character as to blunt the sensitiveness of the patient's nervous system by the violence of the shock of the accident. In the case under consideration, reaction came on at the end of the first day, with moderate fever, the temperature being, part of the time, at 102°. The wound was first treated with carron oil, and later, poultices with carron oil upon them were applied to hasten the sloughing. On the eleventh day, the patient began to complain of chilliness and of pain in the right lung, and to have a slight cough. On examination, the pulse was found to be 120, temperature 103°, and, at the base of the right lung, were the characteristic evidences of pneumonia. The attack developed with little warning, and was of a mild type, although adding to the general prostration occasioned by the discharging wound on the arm and breast. In this case the poultices were made larger, so as to cover the right side of the chest, and stimulants were given freely.

Pneumonia and bronchitis, as well as inflammations of other viscera, are not infrequently complications of severe burns involving the chest or a large part of the body surface. The internal organs have to take upon themselves the work of the destroyed skin as an excreting organ, and also have a larger amount of blood than usual sent to them, so that congestion and inflammation result. These inflammations are usually of a low type, coming with obscure symptoms during the period of inflammation and suppuration in the wound. Erichson, in observations of fatal burns, found the brain affected in thirty-three out of thirty-seven cases, the thoracic viscera in thirty out of forty, and the abdominal viscera in thirty-one out of forty-two cases.

In Case I, after sloughing, there was a large ulcer, which healed by granulation, surgeon's adhesive plaster being used to compress and restrain the granulations.

At present time, four years after the accident, there is persistent neuralgia about the right arm, and the cicatrix at the front of the axilla is much thicker than at other parts of the burned surface, and the arm is considerably restrained in its outward and upward movements. The patient's age, however, renders any surgical operation for restoring motion impracticable.

In similar cases suitable for operations, where bands of cicatricial tissue cause severe deformity, as about the joints or chin or neck, the bands may at times be cut, or plastic operations for replacing the cicatricial tissues by normal tissues from neighboring parts are sometimes called for. An interesting report of such cases was published by Dr. C. B. Porter, in the *Boston Medical and Surgical Journal* in 1878, and, at its close, were given the following suggestions for plastic surgery:

"(1) Dissect out, if possible, all cicatricial tissue. (2) The pedicles should be arranged so as to get the largest supply of arterial blood possible. (3) Flaps thick with adipose tissue do well, and the fat is absorbed, and the flap gradually assumes the character of the surrounding skin. (4) Compression of the parts operated upon prevents a collection of blood underneath, and hastens the union of the flap to the parts beneath."

Case II illustrates in a marked degree a complication which is very common in severe cases of burns; namely, the congestion of the kidneys, as shown by the presence of albumen in the urine. This patient,

[1] Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication in the Journal.

a man twenty-eight years old, by trade a cloth-printer, was severely scalded by the bursting of a drying can in a bleachery. He was burned about the forehead, on the side of the head and neck, on the back and buttocks, and about the front of the left thigh, and both lower legs and feet. For three weeks, during the height of the inflammation of the burn, there was albumen in the urine, varying in amount with the degree of fever present. In the "International Encyclopædia of Surgery," there is an interesting report of cases at the Pennsylvania Hospital, in 1880, in which cases careful examination of the temperature and urine was made daily. In these examinations it was found that in mild cases, where there was no variation from normal temperature, no albumen was discovered; while in graver cases, with temperature ranging from 101½° upward, albumen was always present in amount corresponding with the elevation of temperature. The same explanation is offered for the congestion and inflammation of the kidneys as in cases of pneumonia or bronchitis following burns or scalds.

In this case, although there were extensive wounds about the head, no delirium or symptoms of congestion about the brain were present at any time.

In CASE III, a man burned at the same time, the burned surface was upon the face and side of the head, covering a space about the size of the hand. On the fourth day a mild delirium began, which continued for ten days. In this case the wound healed badly. There was great prostration, with formation of bed-sores. The treatment of the burned surfaces in these cases did not differ materially from that in Case I — carbolized oil (1 part to 20) and salicylated vaseline (10 gr. to ℥j) being used in place of carron oil.

CASE IV. A boy twelve years old, was burned with strong sulphuric and strong hydrochloric acids. Carron oil was ordered by the physician, who saw the boy at the time of the accident, and this was used at the boy's home for two days before I saw the case. There was very little pain on the day of the accident, and on the second day the boy was dressed and playing with the other children of the family. The burns began to be painful on the night of the second day, and on the third day, when I first saw the case, there was very severe pain and considerable fever. On examination, I found several small burns about the left knee and leg. The right leg was badly burned from the buttock to the foot. The general appearance of the limb was as if the skin had been parboiled. It had a whitish, sodden look and there were no blisters at any part. The boy's temperature had come up gradually to 103°, and the pain was increasing. Opiates and quinine were used, and the carron oil applied to the wound. By the sixth day, the entire injured surface was denuded of skin and left red and raw. The carron oil was so disagreeable that carbolized cosmoline (1 part to 20) spread upon lint was used, and this giving rise to symptoms of carbolic acid poisoning (vomiting, dark stools and dark scanty urine with the odor of carbolic acid), plain cosmoline was used. On the twenty-eighth day, the granulations had become quite prominent and bleeding, and powdered alum was sprinkled over the surface of the wound and strapping applied with cosmoline dressing outside. The wound healed slowly, the surface breaking open several times with a fresh discharge of pus, before healing was effected. While the cicatricial tissue was forming the foot became drawn up until it nearly touched the buttock.

This case illustrated the fact that even in badly contracted limbs much may be accomplished without resorting to surgical operations to overcome the contractions. Mechanical appliances were used in this case, consisting of a splint made of one-fourth inch iron wire, fitted to the patient's back and running parallel to the limbs; so that with surgeon's plaster, extension could be obtained without interfering with the dressings applied to the wounds.

The most troublesome feature of this case (and one which has persisted to some extent to the present time, five years after the accident) was the most provoking itching, sometimes causing the boy to cry for an hour at a time, especially after dressing the leg. Several times morphine was administered to relieve this symptom after dressing the wound. Since the healing of the wound, carbolized cosmoline has been found to give the most relief for this symptom.

CASE V. A very strong, healthy young man, about twenty years old, while playing with a boy, received a handful of unslaked lime in his face. His mouth being open at the time, some of the powdered lime was inhaled.

He called at my office *three hours* after the accident, complaining of burning in the mouth and throat, but saying nothing of any difficulty in breathing, although his voice was husky. The mouth and throat were inflamed and reddened, but there was considerable expectoration. The lips were congested and the face wore an anxious look. *Fourteen hours* after the accident, I saw the patient and found him quite feverish, with quickened pulse and respiration and with labored breathing. He complained most of pain in the mouth, and of a slight pain in the chest. *Twenty-four hours* after the accident, the pulse was 108, temperature 103°, and respiration 40 per minute. Dyspnœa had increased, there was a frequent cough, and muco-purulent expectoration. *Thirty hours* after accident, pulse 130, temperature 104.05°, respiration 48, and labored. Patient was delirious at times, but could be roused to take medicines and nourishment, swallowing with little difficulty. The cough had become almost constant and a large amount of muco-purulent fluid was raised. There were moist râles throughout both lungs. *Three hours* later the delirium was more marked, and the bowels had become quite loose, moving involuntarily.

Forty-one hours after the accident, pulse 120 and feeble, temperature 104°, respiration 62. Mind wandering continually. Face and chest congested. Râles in both lungs.

The patient died forty-eight hours after the accident.

In this case, there was marked congestion and inflammation, produced speedily from an apparently insignificant cause. The location of the lesions was such that a slight burn was followed by complicating inflammation speedily proving fatal. The treatment in this case was, at the first visit, the use of gargles of dilute acid solutions to counteract the lime. At the second visit, stimulants were ordered and used freely until the case terminated, brandy and carbonate of ammonia being chiefly relied upon. External applications were applied about the chest as in cases of acute bronchitis. Moist air was breathed by the patient.

Burns and scalds about the mouth are not infrequent in young children, from drinking boiling water or inhaling steam. Such cases are frequently fatal from the resulting œdema of the larynx and inflammation of the bronchial tubes. In some of these cases, tracheotomy has been performed, but the operation cannot be regarded as very successful. Ashhurst refers to twenty-eight cases of the kind, of which twenty-three terminated fatally.

In summing up, it might be said that the principal points in treatment are: at first, to relieve pain (generally by means of opiates), to lessen and overcome shock by the use of stimulants and heat, and to dress with simple dressings; later, to support the patient's strength during the time of inflammation and suppuration, and to give to complicating inflammations their appropriate treatment; to keep down granulations by strapping or by mild caustics; to help healing, if necessary, by skin-grafting; to overcome contractions by mechanical appliances, or by strapping, if possible; and, to restore deformed parts to as nearly as possible normal conditions, by surgical means if necessary.

REPORT ON PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M.D., AND R. M. LOVETT, M.D.

OPEN INCISION IN CLUB-FOOT.

Phillipson [1] considers that congenital club-feet may be grouped in different classes according to their severity, but in all classes the chief hinderance to permanent correction is in shortened soft tissues, tendons, fasciæ, ligaments. Schede has in several cases adopted and developed Phelps's method of direct incision in severe cases. In light cases, Phillipson advises simply subcutaneous tenotomy of the tendo-Achillis, plantar fuscia and that of the internal lateral ligament below the internal malleolus, and the tendon of tibialis posticus. In more severe cases, the flexor longus digitorum, abductor, hallucis and flexor hallucis longus, and flexor brevis need also to be divided. If the head of the astragalus is very much distorted a linear division can be performed, but not a wedge-shaped excision.

The incision through the skin for these divisions should be on the inner side of the foot, and the tibialis tendon can be carefully freed and the artery and nerve spared. The wound should be dressed antiseptically, and the foot corrected and done up in an immovable plaster silicate bandage for four weeks, and later in a removable silicate bandage.

TREATMENT OF CLUB-FOOT.

Lorenz [2] thinks that club-foot can be treated without section of the bone, provided proper treatment is commenced at proper time and carried out for a sufficient length of time.

Treatment should begin immediately after birth and tenotomy of the tendo-Achillis should be done at first, and manual correction should be begun immediately. The foot can best be held in a plaster-of-Paris bandage, which should be changed every fourteen days. In lighter cases correction by sticking-plaster strips can be used. After a while, as soon as the foot is corrected and the child able to walk, a properly constructed shoe.

If operation on the bone is necessary, open incision of the soft parts, or tenotomy of the ligaments are not to be relied on, as based on imperfect pathology. Wedge-shaped resection of bone or enucleation is preferable.

[1] Deutsche Z. f. Chir. Bd. xxv. p. 296.
Also, Schede Deutsche Med. Woch., 1886, No. 38.
[2] Allg. Wiener Med. Zeitung, 1887, No. 12.

INTERMITTENT HYDRARTHROS GENU.

Nicolaysen [3] reports a case in a soldier who was attacked by an effusion in the knee which ran the usual course, but reappeared once after over-exertion. Six months later the same trouble appeared, and lasted two or three days, disappeared spontaneously to present itself regularly after an interval of fourteen days, during which time the joint was entirely well.

Treatment appeared to be without avail until arsenic had been used for two months, when recovery took place.

The spleen was found enlarged when the arsenic treatment was first begun, but gradually diminished. The patient came from a place where intermittent fever prevailed.

INTERMITTENT LIMPING.

Terrillon [4] describes a case of an affection not infrequent among horses, but rare in human subjects. In veterinary practice it is not uncommon for horses to be found that are apparently perfectly sound when at rest and at the beginning of motion, but that begin to limp (generally in the hind leg) as soon as active motion is carried on; with evident pain and discomfort, which increases until the animal is covered with perspiration and falls. Recovery takes place after prolonged rest, but symptoms recur and eventually the animal is killed as useless. At autopsy, a thrombus of the iliac is found.

Terrillon's case in a human subject was that of a man twenty-seven years old, a drinker, who complained of pain in the left foot, which intermitted, but reappeared suddenly on motion, with so great severity that after a while the patient was unable to go more than a few steps. Gangrene of the foot followed, and amputation with recovery.

JOINT AFFECTION IN TABES DORSALIS.

A most complete investigation on this subject has recently appeared,[5] based on the investigation in the Tübingen Clinic, and on 107 cases collected in the literature of the subject. The following is the order of frequency in which the joints are affected: knee, 78; hip, 31; shoulder, 21; tarsus, 13; elbow, 10; ankle, 9; wrist and jaw, each 2; spine, 1. The symptoms usually appear suddenly, without known cause, and often without pain. The joint affection appears usually in an early stage of the disease. The swelling of the joints may be quite large and consist of an effusion in the joint and an œdema of the whole limb. This often appears suddenly and may subside in part with equal rapidity. There are, of course, severe and milder types. In the severe cases the synovial membrane is pale and covered with granulations, the capsule is thickened and covered with a deposit of lime, and in the severest, the capsule entirely disappeared, and the ends of the bone become distorted, hypertro-

[3] Centralblatt f. Chirurgie, June 4, 1887, p. 447.
[4] Revue de Chirurgie, 1886, No. 10.
[5] Centralblatt f. Chir., October 15, 1887.
Also, Rotter. Centralblatt f. Chirurgie, No. 22, 1887, p. 415.

phied or atrophied. The effusion is rarely purulent, and if so, as a rule it is due to violence. Luxation and spontaneous fracture may occur. Syphilis was found in 13 of the 109 cases, in 21 was known positively not to exist, in 5 it was doubtful, in the remainder no facts could be determined.

Sonnenburg[6] has examined a large number of preparations of arthropathia tabidorum. He considers, with Virchow, that the tabes dorsalis and the lesion of the nervous centres present a predisposing cause or a predisposition through the faulty nutrition of the bones. The matter is, however, as yet not determined, as in some cases it would appear that lesion of the joint was the origin of the lesion of the cord.

Rotter[7] has excised four times in such cases, and reports a fair result in two cases. From what he has found he is inclined to regard the affection as one of fracture of the joint or primary traumatic arthritis, not recognized owing to the impairment of sensation.

Krauss[8] mentions a man who underwent amputation of the thigh for deformity of the knee; neuralgia of the stump followed, and later section of the sciatic was done. The subsequent course and autopsy proved the disease to have been tabes dorsalis, though neither the appearance of the knee nor the clinical course gave any evidence of a central spinal arthropathy.

KNOCK-KNEE.

Mr. Rushton Parker[9] speaks of the tendency that slight degrees of knock-knees show toward recovery if the body weight be taken off the leg even for a short while. He would advocate this as the first and mildest means of treatment in beginning cases, simply that the erect position should be avoided for awhile and the child should creep. Next flat-foot is so commonly associated with knock-knee, and withal so much more common than knock-knee, that it seems reasonable to attribute the knee deformity to it, and the supposition is verified, Parker says, by the success of the following method of treatment: the simple device of raising the inner side of the boot sole and heel and sloping it off toward the outer side, a contrivance adopted from Mr. Thomas.

If mechanical treatment is made necessary, he finds Thomas's knee and splint of the calliper variety the most useful, and there are few cases, he asserts, where the deformity cannot be so corrected without laying up, unless the bend is excessive.

In very hard cases he at once uses osteotomy and applies a long Thomas knee-splint and treats the case as he would treat an ordinary fracture of the leg.

RICHETS.

Dr. Whitman[10] has investigated the question whether children are apt to out-grow bow-legs and knock-knee, by a series of observations made on adults in the streets of Boston. Of 2,000 adult males counted as they were met in the street, it was found that 20% showed some degree of bow-legs, but knock-knee in all other series of observations only appeared in 1.6%. From a consideration of the attainable statistics on the prevalance of bow-legs in children, Whitman concludes that the proportion is about the same as in adults, and reaches the following conclusions: "(1) A bow-legged boy is more likely to become a bow-legged man than a boy with straight legs. (2) If such a proportion of bow-legs exists among adults as would appear from these observations, it would seem more reasonable to treat such cases in childhood rather than to trust to nature for their rectification. (3) If such deformities are to be treated, the sooner treatment is applied the better."

LATERAL CURVATURE.

Mr. Barwell[11] calls attention to the fact that lateral curvature seems to be very much on the increase, a fact which he attributes to the greater pressure of school work. He takes occasion to assert again his original belief that asymmetrical muscular action is at the root of the trouble. Predominance of the muscles on one side, resulting from postural or respiratory causes, causes a lateral curvature of the spine, at first wholly to be corrected by proper apparatus. From this condition there result in the process of growth, the well-known bony and ligamentous deformities. The primarily lumbar form he finds oftenest due to pelvic obliquity from a short leg, and in dorsal cases in girls he holds accountable the faulty position assumed in writing at a desk or table.

OSTEOTOMY, OSTEOCLASIS AND FORCIBLE STRAIGHTENING.

Margary[12] has performed 361 osteotomies, 10 cases of osteoclasis, and 26 of forcible straightening. 207 of the osteotomies were for genu valgum, 83 genu varum, 18 for contraction at the knee, 7 for deforming callus, 4 for anchylosis after polyarthritis, 4 for rachitic curvature of the upper extremity, 1 for luxation of the elbow backwards. 3 patients died, (but none of sepsis). In 1, amputation was necessary. Suppuration was rare. In 1 case, anchylosis of the knee followed. Resulting impairment of motion was very rare. The average duration of treatment was from 2 to 2½ months.

THE AORTA IN POTT'S DISEASE.

Lannelongue[13] has found that there is always a side displacement of the aorta as well as a forward curvature in severe cases of Pott's disease; the aorta was found at autopsy to be firmly adherent either with the walls of a prevertebral abscess or with inflammatory tissue.

An abdominal aortic murmur can in some cases be heard in the region of the navel. The heart is frequently dilated and hypertrophied.

SILICATE JACKETS.

Dr. Burns,[14] of Russia, objects to Sayre's plaster jacket on the ground that it cannot be removed at will for purposes of cleanliness, or for gymnastics in cases of lateral curvature. As a matter of fact, the jacket as now used by Dr. Sayre, is split down the front and laced, so that it can be removed easily at any time, yet the suggestion of Dr. Burns is of interest. He uses four pounds of the best plaster-of-Paris mixed with twenty pounds of the ordinary grade, and three or four pounds of water-glass. Linen bandages are used, the jacket is moulded over a plaster jacket, which has been prepared as a mould and then cut down the front and provided with leather straps and

[6] Centralblatt f. Chirurgie, p. 5, 1887, No. 25.
[7] Ibid. Also, Archiv. f. Chirurgie, 1887, 36 Bd., pp. 127.
[8] Berl. Klin. Wochenschrift, 1886, No. 43.
[9] Liverpool Med. Chir. Journal, January, 1887, p. 119.
[10] Royal Whitman. N. Y. Med. Rec., xxxii. 1291, 887.
[11] Barwell. Lancet, 1887, i. 1275.
[12] Centralblatt, f. Chir., 1887, p. 444.
[13] Bull. et Mem. de la Soc. de Chir. de Paris, T. xii, p. 515.
[14] London Med. Record, July 15, 1887.

buckles. It is described as light, cleanly, and durable. The expense is an objection to its use, as each jacket costs between two and three dollars.

POTT'S DISEASE.

Dr. Whitehead[15] describes a method of making continuous extension with a plaster jacket, which he advocates very strongly, and he relates the history of several illustrative cases.

A swathe of adhesive plaster is put around the patient's chest before the jacket is applied. To this are applied two stout webbing loops running from front to back over each shoulder. Two stout steel springs are imbedded in the jacket, and are held in place below by squares of perforated tin, which are firmly incorporated in the waist of the jacket, while above they carry a buckle and overhang each shoulder. The shoulder loop of the adhesive-plaster swathe is attached to the springs, the buckles tightened, and a very efficient extension and counter-extension must necessarily be obtained. It must, however, be a very stout skin that would not grow sore under the adhesive plaster applied under such conditions.

Attention ought to be called to the article of Dr. Ridlon,[16] in which he relates two cases of Pott's disease, one cervical and the other upper dorsal, and calls attention to the difficulty of making the diagnosis between the two conditions in very young children.

LOCAL INJECTIONS IN TUBERCULOUS JOINT DISEASE.

Kolischer[17] was led to the method which he describes by observation of the processes of spontaneous cure in tuberculous joint disease, by calcification and by inflammation excited by traumatism. Both these processes are excited by the injection of a concentrated solution of calcium phosphate at the seat of the disease. The solution is made as follows: seventy-five grains of neutral phosphate of calcium are dissolved in twelve ounces of water, and phosphoric acid is added until perfect solution is obtained. Then nine minims of dilute phosphoric acid (Austrian pharm.) are added, with three ounces more of water. The whole solution is sterilized by boiling and injected into the fungus mass by means of a syringe with a platinum needle. The joint is dressed with gauze impregnated with a solution like the above, except that about ninety minims more of dilute phosphoric acid should be added to it. The pain which follows the injection is very severe, and it is generally necessary to use morphine. There is much fever often, and sometimes a good deal of induration about the joint is present, but it disappears. The skin breaks in many successful cases, but the dressing is continued and a calcification and cicatrization go on. Very favorable results are claimed for the treatment by Kolischer and Del Torre.[18]

PSOAS ABSCESS.

The treatment of psoas abscess is discussed by Owen.[19] Spontaneous absorption is out of the question, and he prefers incision to waiting for the abscess to burst. He favors the anterior opening in the groin, with a counter-incision in the back, except in small abscesses where he would make one small opening in the loin. He uses warm iodine water for washing out the cavity. If the temperature remains high after operation it is likely that another abscess has formed on the opposite side of the spine, which must generally be opened independently, although where a bilateral abscess exists there is generally intercommunication between the two collections of pus.

KNEE-JOINT DISEASE AND EXCISION.

The large number of articles written by eminent men within the last six months, on the excision of the knee, shows an increasing interest in the operation on behalf of both general surgeons and orthopedists. Especially do these articles deal with methods of fixation after operation.

Mitchell Banks[20] furnishes, perhaps, the most complete article of all. He speaks of the increasing popularity of the operation and gives briefly its history in England. In private practice the operation is rarely necessary, and in hospital patients he is much influenced by the stage of the disease and the circumstances of the patient. In patients less than fifteen years old, he believes that the disease is almost always amenable to mechanical treatment. But in patients from fifteen to twenty-five, the disease is much more unmanageable, while in older people it is more formidable still. After trying all the incisions he has settled upon the one below the patella, and he does not use the Esmarch bandage or tourniquet during the operation.

He dovetails the femur into the tibia by cutting a concavity in the tibia with a butcher's saw, and cutting the femur to fit it. The posterior crucial ligament generally is sound, and if it can be saved it gives much stability to the joint. As to the removal of diseased tissue he says: "It is hardly possible to remove too much, for after all, the only thing that is wanted is a skin covering for the bones." In the matter of a splint, Mr. Banks' preference is for a common Thomas knee-splint, but he has no doubt that some of the other methods are equally efficient.

Gerster,[21] perhaps, will serve as an exponent of American ideas in the matter of excision of the knee. He agrees that it is to be especially avoided in infants, while for adults he advises the operation. For complete excision he uses Hahn's incision above the patella, as it gives better access to the bursa under the quadriceps. Much care is needed in sawing off the ends of the bones; in the femur section should be made in a place corresponding to the transverse diameter of the epiphysis, and in the tibia at a right to the long axis of the bone. The bones are secured in place by four long steel nails, which are crossed and hold the bones firmly. Outside of the antiseptic dressing pasteboard splints are used in children, and plaster-of-Paris in adults. For thirty days the dressings are let alone in favorable cases, and then the nails, tube, and dressing are removed and a silicate splint applied. Of twelve cases operated on by him (adults and children), ten were cured, one died of tuberculous meningitis, and one had such severe suppuration that the thigh had to be amputated.

Stoker,[22] writing on the same subject, insists upon the necessity of observing three points: (1) Complete removal of all diseased structures; (2) relative permanence of dressings; (3) thorough fixation of parts.

He finds it possible to keep on dressings two or

[15] Whitehead. New York Medical Record, 32, 6, 149.
[16] Ridlon. New York Medical Record, 32, 8, 214.
[17] Kolischer. Wien. Med. Presse, No. 22, 1887.
[18] Del Torre. La Reforma Medica., July 2, 1887.
[19] British Medical Journal, April 23, 1887.
[20] Banks. Med. Press and Circular, April 6, 1887.
[21] Gerster. Phil. Med. News, June 11, 1887.
[22] W. T. Stoker. British Med. Jour., April 2, 1887.

three weeks, and often finds the wound healed at the end of that time; he is able to keep on dressings longer, since he discarded the use of the tourniquet and Esmarch bandage, for the after-oozing is avoided. Outside of the dressing he applies hoop-iron splints, bent to fit the contour of the leg, except at the knee, where they are bridged. Plaster-of-Paris he has discarded, on the grounds that it is dirty, that it loosens so easily, and that its removal causes so much pain to the patient. The bones are held together by two silver dowels, which are introduced into the tibia, one on each side of the tubercle, awl-holes having been bored, and driven up into the femur, but they are not crossed. Mr. Baker[23] uses much the same method for fixation, except that he drives in steel pins with an awl-handle and leaves them in place by removing the handle, but he crosses them, to which Mr. Stoker objects, on the ground that greater precision is obtained by not doing so. The bone pins advocated by Marsh, are objected to on the ground that they injure the cancellous tissue very much and break easily.

The technique of the operation is also discussed by Howard Marsh,[24] who has been annoyed in former years, after operation, by the riding up of the femur while the tibia lay still. This formed a serious addition to the inevitable displacements produced by moving the limb and by the involuntary muscular jerks. The apparatus described by Mr. Gaut, is the one upon which he has finally settled; it consists of an outside and a posterior splint. The latter runs the whole length of the leg, and is carefully padded and applied so as to raise the tibia to the level of the femur. This does away with the need of binding down the femur so tightly as is ordinarily done. Then the bones are pinned together with bone knitting-needles, which are driven into the tibia and femur through holes made by a brad-awl. An outside splint running the length of the leg, but interrupted at the knee, is applied along the outside of the leg, terminating below in a foot piece. All this is done before the dressings are applied; suturing and dressing are then done. The bone pins are cut off and left in place.

Riedinger[25] proposes to saw off the under surface of the patella and also of the front surface of the sound part of the femur and tibia after excision of the diseased portion and securing the femur patella and tibia together. This has also been done by Neuber. Riedinger has made a longitudinal straight incision directly over the middle of the joint, sawn the patella into two lateral halves, separating the ligamentum patellæ in the middle; the ends of the femur and the tibia after division of the crucial ligamentum patella are brought out between the split patella and sawn off in the ordinary way.

Israel[26] employs a convex curved incision which extends to the lower border of the tuberosity of the tibia which is sawn off obliquely, saving in this way the insertion of the ligamentum patellæ. After the operation the tuberosity of the tibia is nailed on to the tibia. Israel endeavors by passive motion and massage and articulated splints to secure some motion.

Tiling[27] separates the tuberosity with a chisel, thus sparing the ligamentum patellæ; the other ligaments are also spared by chiselling off the different bony insertions when sound.

[23] W. Bronant Baker. British Med. Jour., 1887, 1, 321.
[24] Howard Marsh. British Med. Jour., February 19, 1887.
[25] Centralblatt f. Chirurgie 87, p. 440.
[26] Berl. Klin. Wochenschr. 1886, 47.
[27] Centralblatt f. Chirurgie, p. 440, 1887 quoting the St. Petersburg Med. Wocheuschrift.

HIP-JOINT DISEASE.

In his new book "Hip Diseases in Childhood," Mr. Wright[28] stands forth as the champion of the operative treatment. He speaks from large experience, and the book is most carefully and distinctly written. The account of the pathology of the disease is probably the best in the English language, the conclusion is very brief: "In the vast majority — almost the whole — of the cases of 'morbus coxæ' the disease begins as an osteomyelitis of the upper epiphysis of the femur, or of the intermediate neighborhood of the epiphyseal line.

The symptomatology is full and complete. He attaches less importance to muscular rigidity and more to thickening of the trochanter than American authors do, and he adopts the classification into stages proposed by Mr. Adams. Two-thirds of the book is taken up by the discussion of treatment or rather excision, for the two are almost synonymous in Mr. Wright's mind. A quotation will best show his view of the matter. "Treatment, short of excision, when once suppuration occurs, is useful only as a palliative, or a means of temporizing. He gives a table of 2461 cases of excision of the hip which shows 1566 recoveries to 841 deaths. Two other conclusions of Mr. Wright's would be disputed by American authors, that "A case of hip disease seen before suppuration has occurred, is best treated by the use of a Thomas splint with or without previous extension," and that "excision of the hip cuts short the disease, relieves pain and gives a better limb than the average result obtained without operation." Then follows a table of the author's own excisions, one hundred in number, of which 15 died and 85 recovered.

[28] G. A. Wright, "Hip Disease in Childhood." London: Longmans, Green & Co. 1887.

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Schéde. Deutsche Med. Woch., 1886, No. 38.

Clinical Memorandum.

HYDRONEPHROSIS SUPPOSED TO BE OVARIAN TUMOR.

BY S. H. WEEKS, M.D.,
Professor of Surgery in the Medical School of Maine.

BELIEVING, as I do, that this case will be of some interest to the profession, I have prepared the following report for publication. I am indebted to Dr. Alfred Ring, Surgical House Pupil at the Maine General Hospital, for a copy of the Hospital records.

Mrs. M., admitted to the Hospital November 6, 1884. Age, thirty; married; residence, New Hampshire; nativity, Vermont. Has had three children; youngest seven years old. Labor easy, and she got up from each confinement in good condition. Menstruation has usually been regular in time and amount; at times, would extend over several days, and, at such times, be excessive. Patient has been a hard-working woman; appetite fair, bowels regular, weight 138½ pounds. History: In April, 1880, first noticed a bunch about the size of an egg in the right ovarian region. The pain through this mass was sharp and lancinating. During this time, the patient had lung fever, followed by rheumatism in her lower extremities. The growth of the mass, at first, was gradual; but, during the past year, it has been rapid, and the tumor has greatly interfered with respiration, though, at date, the difficulty in respiration is less than it was; the tumor also presses on the liver, though the size of the tumor is less than formerly. Patient states that the size has varied; that when she would pass much water, that there would be a diminution, and when little urine was passed, that the size of the tumor would increase. As soon as she entered the Hospital, she was ordered pulv. effervescens comp., No. 1, every morning; also pil. quin. sulph. gr 2., after each meal.

November 8th. Examination made by the surgical staff; patient first on back, and then in Sims's position. Fluctuation distinctly detected; uterus in normal position, and of normal depth. The diagnosis was ovarian tumor, and an operation for its removal was advised. Examination of the urine showed: color, light straw; odor, normal; specific gravity, 1007; albumen present. She was ordered fifteen grains of bromide of potassium each night at bed-time.

November 10th. Enema given in the morning. At 11 A.M. the patient was etherized, and, in the presence of the surgical staff, and a part of the medical staff, the operation for the removal of the supposed ovarian tumor was commenced. I made the incision in the median line in the usual way, and, on opening into the abdominal cavity, the mesentery was first brought into view, then the bowels and the tumor, covered in front by the peritoneum. Instead of finding an ovarian tumor with a pedicle, I found a cystic kidney. The contents were drawn off by the trocar, which presented a limpid, yellow, and opalescent appearance. About two-thirds of the cyst was removed by the scissors, all hæmorrhage controlled, and the cyst-wall was stitched with silk to the edges of the incision (upper part). The adhesions of the tumor to adjacent structures prevented the entire removal of the cyst. The abdominal wound was closed with four silver sutures. Two rubber drainage-tubes were introduced into the cavity of the remaining cyst, the abdominal cavity being thoroughly shut off from the cavity of the cyst. During the operation the pulse became weak, and f 3i of brandy was given hypodermically. Time of the operation, one hour and ten minutes; weight of tumor, seven pounds.

Recovered well from the ether. No spray was used, but strict antiseptic precautions were observed throughout. 12.30 P.M. f 3i of brandy was given by hypodermic injection. At 12.55, a tablet, ¼ morphia, and $\frac{1}{150}$ atropia, was injected beneath the skin. Pulse 108, temperature 98⅗°, respiration 24. Brandy, f 3i hypodermically. 5.45 P.M. ¼ gr. morphia, to be repeated every four hours until otherwise ordered. 8 P.M. Urine drawn (as also for the few succeeding days); small amount, some sediment. Pulse 116, temperature 90.8°, respiration 26.

November 11th. 2 A.M. Slight attack of vomiting. Slept some during the night. 7.30 A.M. Pulse 120, temperature 100.4°, respiration 22. Very comfortable. 9 A.M. Detected some oozing from wound. The wound was examined, and a small bloodvessel was found in upper part of wound, from which the blood came. This was readily secured by catgut ligature. The antiseptic gauze was reapplied. Patient began to take lime-water and milk — two tablespoonfuls of milk, and one of lime-water every two hours. 5.45 P.M. Pulse 128, temperature 102.2°; brandy f 3iii during the afternoon.

November 12th. 9.30 A.M. Pulse 106, temperature 100.8°, respiration 20. Slept fairly well during night. Wound ordered dressed three times daily, as there was considerable discharge of a sero-purulent character. Milk and lime-water to be increased. 5.25 P.M. Pulse 122, temperature 102.2°.

November 13th. 8 A.M. Pulse 108, temperature 101°. Slept some during the night; is in good spirits. Wound dressed, and looking well. Since noon, beef-tea has been given alternately with the milk and lime-water. During the day, gas passed the bowels. 9 P.M. Pulse 122, temperature 101.8°. Able to take some lemonade, which she found very grateful.

November 14th. 8 A. M. Pulse 103, temperature 100°. Rested well during the night. The discharge from the wound slightly bloody. 7.10 P. M. Pulse 108, temperature 102.4°

November 15th. 8 A. M. Pulse 101, temperature 100°. 7 P. M. Pulse 112, temperature 102.8°.

November 16th. 8 A. M. Pulse 98, temperature 100.2°. 7.30 P. M. Pulse 102, temperature 102°. Very comfortable day. Morphia reduced to ½ gr., still continued every four hours.

November 17th. Morning: Pulse 100, temperature 100.8°. Evening: pulse 104, temperature 102°. The silver sutures were removed. Wound discharging freely. At night, ten grains quinine given per rectum, which caused a slight movement from the bowels, which somewhat fatigued the patient. Brandy f ℥ss given by the mouth.

November 18th. A.M. Pulse 94, temperature 100.2°. Quinine, gr. x, per rectum, causing a slight movement from the bowels. Pulv. eff. co., No. 1, given at night.

November 19th. A. M. Pulse 100, temperature 100.2°. P. M. Pulse 92, temperature 101°. Enema given in the morning, followed by slight movement. Wound discharging freely. Syringed wound with bichloride solution, 1 to 2500. Amount of morphine given every four hours reduced from ⅛ to ¼ gr. Took solid food (steak, etc.) for the first time since the operation.

November 20th. A. M. Pulse 100, temperature 100°. P. M. Pulse 104, temperature 100.2°. Patient bright, and taking more nourishment. Four silk sutures removed from cyst-wall, ordered wound dressed four times daily, and pil. quin., gr. ii, after each meal. Slight attack of vomiting at night.

November 21st. Slept well during the night. A. M. Pulse 96, temperature 99.8°. P. M. Pulse 108, temperature 100.8°. Ordered beef-tea, one-half cup given per rectum every four hours; also quinine, gr. iii, with each injection. Quinine pill by mouth discontinued. Slight attack of vomiting at night. Pulv. eff. co., No. 1, at bed-time, resulting in movement at 3 A. M.

November 22d. Some vomiting in the night. A. M. Pulse 95, temperature 99.2°. Champagne f ℥i given at intervals during the day. Beef enema given every four hours for the day.

November 23d. A. M. Pulse 83, temperature 99.6°. Carbolic acid gauze used on wound. Two beef-tea enemata given in the day. P. M. Pulse 86, temperature 100.6°.

November 24th. A. M. Pulse 90, temperature 99.4°. P. M. Pulse 84, temperature 100.8° Patient feeling very well.

November 25th. A. M. Pulse 79, temperature 99.4°. Enema given in the morning, followed by movement. Bowels slightly distended with gas. Pulv. eff. co., No. 1, given at night, but not retained by the stomach. Quinine, gr. ii, now given every four hours. Morphine, gr. ¼, every four hours.

November 26th. A. M. Pulse 88, temperature 100°. enema given, patient feeling nicely. P. M. Pulse 88, temperature 100.2°. At night had chill, which lasted about half an hour; hot bags and extra blankets applied. Pulse 116, temperature 100°. Quinine, gr. vi, given, and champagne. 10.40 P. M. Pulse 81, temperature 100°. Feeling much better.

November 27th. Patient ate hearty Thanksgiving dinner. Sleeps well nights. The wound is discharging a fair amount, and is dressed four times daily.

November 30th. Wound now dressed three times daily.

December 2d. Slight accumulation of pus at lower angle of wound, where the lowest silver suture passed through abdominal wall.

December 6th. Since last date, the pulse has not exceeded 92; this A. M. it was 104. Temperature not higher than 100.2°; this A. M., 100°. Pus accumulated again in the lower angle of wound. Poultice applied. In other respects, patient doing well.

December 14th. Exuberant granulations about the edge of the wound. Touched with nitrate of silver.

December 16th. Granulations not as prominent. There has been an increase in the discharge since the caustic was applied.

December 18th. Patient up and on the lounge for the first time.

December 25th. Has been up each day since last date. To-day, was able to walk out to the nurses' room.

December 26th. Nitrate of silver again applied to exuberant granulations.

January 5, 1885. Since last date patient doing well. Wound dressed three times each day; discharge small; drainage-tube still kept in. Menstruation began.

January 7th, 10th, 16th, 20th. Patient able to walk a little each day.

January 20th. Patient removed from private room to the ward. Wound now dressed morning and night. The discharge is small. Appetite still continues good. Is gaining in strength. Bowels are regular.

January 21st. Nitrate of silver again applied to exuberant granulations.

January 31st. Since last date, patient's general condition continues to improve. The wound remains about the same, though the discharge is slightly less. The edges of the wound about the drainage-tube have healed.

February 1, 1885. Patient discharged, her general health all the time improving. The wound still discharges, the discharge being thin and watery, but no odor of urine, although I am confident a large part of the discharge is secreted from the walls of the remaining portions of the cyst, in which there seemed to be portions of the cortical structure of the kidney.

The question would naturally arise: why was not a correct diagnosis made before the nature of the tumor was revealed by the operation? It is a fair question, and should receive an answer. The early history of the case tended to mislead the surgeons. I am satisfied that the organ was a "floating kidney" before it became the seat of hydronephrosis, and that this displacement led to obstruction of the ureter, thus causing a dilatation of the pelvis and calices of the kidney by urine, and atrophy of the renal substance, followed by expansion of the capsule, and of what remained of the cortical and medullary substance of the organ.

It will be noticed that the history of the case showed that four years before the operation, she noticed a bunch about as large as an egg in the right ovarian region. In this respect, it strongly resembled an ovarian tumor. In fact, one of our hospital staff, a very skilful diagnostician, saw the patient in the early history of the growth, and, finding this mass in the right ovarian region, pronounced it ovarian tumor. In my experience, it is something entirely new to find a cystic

kidney in such a position. At the time of the examination, with such a history before us, and finding the whole abdominal cavity filled with a cystic tumor, resembling in every particular an ovarian cyst, I feel sure that such a mistake in diagnosis could not have been avoided. I am free to confess that, when I had finished my examination, I felt morally certain that the tumor was ovarian. The appearance of the cyst at the time of the operation may be of some interest: The anterior part of the cyst-wall was as thin as that of an ovarian cyst. As I approached nearer to the base of the tumor, the cyst-walls were thicker, and, at some points, there seemed to be cortical structure of the kidneys very much expanded. The pyramids seemed to be entirely wasted, and the calices were converted into huge spaces or sacs. The patient has been heard from several times since she left the Hospital, and her reports show that her general health has been excellent, being able to do hard manual labor. The last report, about a year ago, stated that there was then a small, fistulous opening, with some discharge, but not enough to cause much inconvenience.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

OCTOBER 24, 1887. The President, DR. O. F. WADSWORTH, in the chair.

DR. ABNER POST showed two cases of

REMOVAL OF THE SHAFT OF THE TIBIA. REPRODUCTION OF BONE FROM THE TIBIA.

The first case was a boy, injured by a blow from a sled, about Christmas. An abscess had formed and had dissected away the soft periosteum from the bone. This was opened in December. The shaft of the tibia became necrosed as a result of the abscess. On the 28th of May all of the shaft of the bone was removed leaving the periosteum. The ends of the channel thus formed were scraped, and the knee-joint was perforated. Bleeding was startling, the blood oozing from every part of the wound. This was controlled by elevation of the part, but it left the patient in a precarious condition. He rallied, however, and the leg which was then limp is now stiff from reproduced bone.

The other case is a girl, upon whom the same operation was done, July 28th. Her leg was kept stiff by means of plaster-of-Paris, and has healed faster, the condition being now the same as that of the boy. She had had rheumatism, but the cause of bone destruction was not so evident in her case as in the other.

DR. W. C. B. FIFIELD said that he was pleased to see these cases. The history of the operation is interesting. It was first done by Géraldis in 1861, and was repeated by him up to the time of his death. The disease seems to have been a phlegmonous periostitis. In the case of a child, whose broken tibia had united at an angle, the French surgeon sawed out a wedge-shaped piece, first carefully removing the periosteum, in hopes of getting new bone growth. The case failed with a false joint, and the good sense of Géraldis then pointed out the difference in prognosis, accordingly as phlegmonous inflammation has or has not preceded the operation. If it has, the periosteum is separated or may easily be separated; if not, separation is a work of difficulty and proliferation is less likely to occur. Even if the normal periosteum can be peeled away, it carries with it no granulations for starting points of the new bone. Dr. Fifield had himself done the operation ten years ago or more, in spite of the unfavorable prognosis of those who were conversant with the case. The shaft being still firmly attached to the epiphysis at the upper end of the bone, it was removed by means of a chain saw. This operation was successful, and the speaker had had the pleasure of seeing his patient skating a year later. After that, he had removed the shaft of the femur on both sides from another child. Bleeding was not profuse in his cases.

The whole shaft of the humerus has likewise been removed. In the after-treatment, the necessity of good feeding was emphasized by Géraldis.

DR. J. C. WARREN said that he had never seen a tibia that needed this operation. Although such cases occur, the occasion must be rare. The tibia is an especially favorable bone for reproduction, owing to the plexuses of vessels in its lower part. In a case of the speaker's, the shaft of the humerus had been pulled off, previous to amputating the arm, leaving the epiphysis and periosteum. Reproduction had taken place to such an extent, that there had been no more than enough flap to cover it, the amputation having removed the lower half of the arm. Such entire removal of bone must be rare in the United States.

DR. ABNER POST, read a paper entitled,

SOME OF THE LATE MANIFESTATIONS OF HEREDITARY SYPHILIS ILLUSTRATED BY CASES.[1]

DR. F. B. GREENOUGH said that treatment is very important in these cases, and that, therefore, diagnosis is very important. Doubtless multitudes of cases of late hereditary syphilis are considered to be scrofula, and are treated with cod-liver oil. He was glad to hear mercury mentioned, for he believed it to be the important drug when it can be borne. Probably if cases of late hereditary syphilis could have been observed early, they would have for the most part presented evidence of the disease early.

DR. J. C. WHITE said that he wished that he felt a greater ability to distinguish between doubtful syphilis and scrofula.

In two or three points he should differ from the reader. He did not find dactylitis common in cases of syphilis; neither is syphilis common with dactylitis, at least three-quarters of the cases of dactylitis seen by him being non-syphilitic. Again we do not know how to distinguish between syphilitic and non-syphilitic dactylitis. Under these circumstances he placed no great stress on the presence of dactylitis alone as proving the existence of syphilis.

Hutchinson's teeth, again, are not a positive proof. When found, they are commonly on the person of a syphilitic, but this, although true as a rule, is not a rule without exception. He has seen them in children where there was no syphilis in three generations.

Further, it is not safe to attach too much importance to the effect of remedies as confirming a diagnosis. He had no doubt but that syphilis is a bacillus disease. Mercury and iodine are both of them pow-

[1] See page 493 of this number of the Journal.

erful destroyers of bacilli, and may be of service in the treatment of other bacillus diseases than syphilis. Mercury is very powerful in destroying lupus when locally applied. He should, therefore, not consider a recovery, while using mercury, as a proof that the disease in a given case was not tubercular.

DR. EDWARD WIGGLESWORTH remarked that in 1871 he had been called in consultation, by Dr. C. F. Folsom, to a somewhat doubtful case of dactylitis syphilitica, published in the *American Journal of Syphilography and Dermatology* for that year, and recently in "Wood's Reference Handbook of Medicine." The diagnosis, subsequently verified, was partly based upon the fact that the swelling of the phalanx was symmetrical, entirely on the dorsal surface and sides, and affecting the distal rather than the proximal end of the phalanx. In strumous dactylitis he held that more commonly, though not always, the proximal end of the phalanx, and even the joint were apt to be involved, the distending deposit shading off as the distal extremity was approached. Taylor, in his treatise upon the "Syphilitic Lesions of the Osseous System in Infants and Young Children," refers to the usual uniform enlargement of the whole bone in syphilitic infants, whereas in cases of osseous inflammation, due to the cachexia of scrofula, the lesions may begin and be greatest at the proximal end of the bone. As to such cases as those recorded by Dr. Post in his very interesting paper, the question is not so much whether the disease is inherited or acquired, or of early or late manifestation, or if there have been observed previous early symptoms or not. The point is whether the malady is syphilis or is not syphilis. Syphilis is syphilis wherever or whenever found, and always calls for its special and appropriate treatment. Cod-liver oil, already referred to, is, however, a tonic often most advantageously employed even in cases of syphilis. Its action has even been compared to that of potassic iodide.

It by no means follows that the date of appearance of syphilitic symptoms is necessarily an early one in cases of hereditary syphilis. Bulkley, Fournier and Zambaco report cases where the manifestations were at the ages of from twenty-three to twenty-six years.

Nor is the disease necessarily hereditary even when the specific symptoms appear at an abnormally early age. Within the year, Dr. Wigglesworth had treated the case of a boy of about twelve years of age, with well-marked secondary symptoms, and the initial lesion upon the penis still evident. The child had been toyed with by an infected nympho-maniac, herself youthful, and had acquired the disease in the usual manner and in the usual situation.

The PRESIDENT said that there are all grades from normal teeth to the perfect Hutchinson's tooth, and that while he had certainly seen such teeth in non-syphilitic people, he had never seen them well marked under such circumstances.

DR. POST, in closing the discussion, said that he was glad that he had brought forward these cases. He had been in doubt as to what to call the series; late hereditary disease is as indefinite a term as tertiary, but he believed it was properly applied to such cases as he had reported. He was quite aware that the diagnosis was not fully established, that some of them were of the kind called scrofulous. He had tried to present the other aspect. He had tried to state that he would not make a diagnosis of syphilis upon the presence of dactylitis alone, but that where that symptom occurred with others, it added weight to them. Alone it establishes nothing. Some of his series had typical Hutchinson's teeth.

Certainly some cases have been reported even older than these mentioned by Dr. Wigglesworth.

NEW YORK NEUROLOGICAL SOCIETY.

MEETING held Tuesday evening, November 1, 1887. DR. C. L. DANA in the chair.

DR. BEVERLY ROBINSON presented a case of

APHASIA WITHOUT PARALYSIS.

The history had been furnished by the assistant house-physician to Charity Hospital. The patient was sixty-eight years of age, born in this country and admitted to Charity Hospital, August 25th of the present year. His previous history was negative in regard to syphilis. He once had had rheumatism in the knees, but the date was not known. His present difficulty dated from May, when he commenced to have headache. Subsequently he fell out of bed to the floor. He was able to crawl back into bed, but from this time his speech was affected. He was treated in Bellevue Hospital, and was from there transferred to Charity Hospital upon the date named. Upon entry he was apparently in perfect physical health, excepting speech. Objectively there were no signs of paralysis. His walk was slow but good. Possibly the right leg dragged a little. The dynamometer registered 20 with the right hand and with the left hand 10. The faradic reactions were normal in the upper extremities. In the lower extremities they were somewhat quicker and stronger upon the left than upon the right side. The sight in the right eye was as good as before the injury. The right eye was found more hypermetrophic than the left, but the optic disks showed the physiological cupping in both eyes. The urine was negative. When admitted the patient could speak only in monosyllables, using most frequently the phrases "Yes," "No," "That's it," and and "Exactly." He read the newspaper and apparently understood what he read. He also used gestures and explanatory words. When asked his age, as "Are you forty?" he would answer "No;" "thirty-two?" "no;" "forty-eight?" "no;" "sixty-eight?" "yes." If given a pencil and paper and told to write his age he would put down an 8 and in front of it a 6, adding "That's it." He could not write his name, writing John in the place of Isaac. It thus appeared to the speaker a case of amnesic and ataxic aphasia with agraphia, depending upon lesion of the foot of the left third frontal convolution. His own interest in it had been directed to the question whether lesion of this area would involve the intrinsic muscles of the larynx. On account of the difficulty of obtaining intelligent coöperation, however, a satisfactory examination could not be made. The treatment had consisted in the administration of fifteen grains of pot. iodid., t. i. d.

DR. DANA asked whether the patient could copy, and whether mirror writing was obtained with the left hand.

DR. ROBINSON did not think that the patient could copy, but would test the point.

DR. DANA suggested that his own name be not

used, and the President's was substituted. The patient wrote Charles Dane. Dr. Jacoby added another phrase and found that the patient wrote s for m and f for i.

Dr. Starr would rule out amnesia in the case. The terms amnesic and ataxic aphasia had respectively a sensory and motor significance. Here the patient apparently understood perfectly, and his difficulty was purely ataxic or motor.

Dr. Robinson explained that a few weeks ago the patient had not understood well and that even at the present time he would probably not understand all questions which might be put to him. Yet, during the last two or three weeks, he had very markedly improved.

Dr. Ball asked how carefully the question of sensory ability had been tested. When told to do certain things would he do them; also would he do the same when written directions were given him.

Dr. Robinson replied that the patient had complied with oral directions, that written directions had not been tried.

Dr. Dana asked whether the patient was able to utter exclamatory language. In some cases where ordinary speech was lost through lesion of the left third frontal convolution, profane or ejaculatory language was still obtained through the corresponding center upon the right side.

Dr. Robinson stated that the patient did not present this peculiarity.

Dr. Putnam Jacobi asked whether the test suggested by Dr. Ball could not then be made.

Dr. Ball directed the patient to take hold of Dr. Robinson's left thumb. The man hesitated and apparently failed to understand, but complied when directed simply to "Take his thumb."

Dr. Starr asked the patient whether he read the papers and understood them, and the man replied, "Yes, of course."

Dr. Ball mentioned the case of Dr. Charles Allen, aphasic for several years and now dead. This case, had, during most of the time, read and apparently understood, yet it was probable that he obtained the sense from leading words and that a large number of the words he did not understand at all. Probably the same was true of this case.

Dr. Robinson asked whether there was any recognized difficulty in the use of the intrinsic muscles of the larynx for phonation associated with the aphasic condition.

Dr. Starr had been interested in this subject through a paper by Dr. Delevan, in regard to a cortical centre for the larynx. For a year he had sent to Dr. Delevan all cases of hemiplegia coming to him at the Polyclinic and the Demilt Dispensary. Fifteen or sixteen cases had been examined without the discovery of any affection on either side of the larynx. He believes that no such case was upon record. It was certainly contrary to the general experience of neurologists to find any difficulty of phonation connected with aphasia. In fact, Dr. Ross, in his last edition, had stated that in the lesion of aphasia the muscles of the larynx were not affected.

Dr. Robinson had retained an impression that literature showed such cases. He had had his attention directed to the subject in this way.

Dr. Starr asked whether a patient could have this paralysis of the larynx without being hoarse.

Dr. Robinson replied that he could. He had seen patients with partial paralysis of a vocal cord who were not hoarse.

Dr. Gray stated that a distinction should be made between hemiplegias from lesion of the internal capsule, and those from lesions of other parts, particularly the pons and the medulla. Of six or seven cases in which hemiplegia was due to hæmorrhage, embolus, or thrombus in the internal capsule, he had had careful examinations made by competent laryngologists, and in none of them was there any paralysis of the laryngeal muscles. In hemiplegia from other causes, alteration of the tone of voice was sometimes obtained. In true and simple aphasia he thought that the voice was not affected.

Dr. Dana added that in pseudo-bulbar paralysis, the larynx was involved, the lesion being in the corpus striatum.

Dr. H. C. Coe followed, with a paper upon

THE SIGNIFICANCE OF PELVIC PAIN.

Pain was not a reliable indication of disease. Often an epithelioma of the cervix would cause less distress than a dislocation. The description of pain by the patient and the localization of its cause by the physician presented separate topics for thought. As described by the patient the pains of the pelvic region were, in general terms, an aching pain in the lower part of the sacrum, a shooting pain in the inguinal regions, and the gnawing pain of carcinoma. All of these pains could be referred to some lesion of the peritoneal or connective tissue, or both — to some plastic exudation not necessarily of great amount. The distress caused by a retroflexed uterus was much greater where there were adhesions than when there were not. It was fair to assume that this constant aching pain was due to the implication of nerves in the exudate. Laceration of the cervix, excepting that extending into the vaginal front, did not, in itself, cause pain. The cervix was a very insensitive organ and laceration was but a link in the chain of circumstances which resulted in pain. Malignant disease did not necessarily give rise to pain. Hart and Barbour say that there is no pain so long as the cervix only is affected. Hewitt says that the pain of cancer is due to localized attacks of peritonitis. The pain was earliest and most severe when the growth is in the body, thus differing from sarcoma of the body in which there was little pain. Possibly in this variety of cancer the intra-muscular nerves were involved in the growth. The shooting, darting, sickening pains associated with disease of the tubes was due to nothing but peritonitis. Hegar refers to cicatricial nodules in the broad ligaments, and even in the case of ovarian neuralgia it seemed probable that the pain was due to pressure upon the nerve before it entered the organ, rather than to changes within it. Otherwise this pain would not be relieved by the relief of perimetrial adhesion, as frequently occurred.

The inference was to give a guarded prognosis in regard to the relief of pelvic pain. If the pain, associated with a fissured cervix, was due to cicatricial nodules in the broad ligament, we might cure the laceration and the endometritis and yet the pain would continue. To remove the ovaries for the relief of pain was even more hazardous.

The speaker thought that gynecologists exaggerated the frequency of reflex pain. With Dr. Dana, he

considered anæmia the most frequent cause of vertex headache. Pelvic reflexes were found in the upper lumbar and intercostal nerves. He had not found sciatica of ovarian origin according to Dr. Mundé's suggestion. It might occur as the result of some exudates, but must be rare as a reflex pain. Dr. Mundé, himself, somewhat oddly remarks that this pain is relieved by a blister over the sciatic notch. Dr. Polk's plan of separating adhesions for the relief of pain presented scarcely less risk than the usual operations referred to. Treatment by electricity, according to the methods of Apostoli, gave the most satisfactory results. Reflex or transferred pains might also be due to inflammatory foci and might be treated in the same way.

DR. GRAY, as a neurologist, felt at a loss to know how to discuss such a paper. Many pains besides those of pelvic origin centered in the back, such as muscular pains and the pains of peripheral neuritis. He had himself often referred patients to competent gynecologists for examination, and had found nothing in the pelvis to account for pain over the sacral, lumbar, or coccygeal vertebræ. Yet, on the other hand, one could not deny the capricious vagaries which distinguish the truly reflex pelvic pain.

DR. PUTNAM JACOBI remarked that while the specialism assisted investigation, it was a misfortune to the patient. She did not consider that the writer of the paper had proved his position. Pelvic pain might be more definitely mapped out. The uterus, the central organ of the pelvis, was supplied by the lumbar plexus; and lesions of this organ were accompanied by pain in the track on the lumbar nerves. Two or three other definite points were known. Pain referred to the distribution of the femoro-cutaneous nerve, was the most characteristic accompaniment, not of ovaritis, but of ovarian neuralgia. Again, pain in the end of the spine might be spinal, ovarian, or endometrial in origin. A retroverted uterus without periuterine lesion would cause aching in the sacral region but no coccyodynia. The speaker considered pain from pelvic exudation rare and somewhat hypothetical. Even chronic peritonitis gave only a dull aching pain, which was quite tolerable, except when the patient was moving about. The worst case which she had ever seen, one which finally died from an exacerbation, was comfortable when in bed. The ganglion had been found frequently diseased in cases of pelvic pain, especially in those associated with posterior perimetritis; and in some cases of violent hysteria, it had been found atrophied. This ganglion, situated between the body and the cervix, was often the site of excessive tenderness and a permanent neuralgia might result from a peritonitis which would persist long after the removal of its cause.

DR. RANNEY quoted Dr. Beard as having said that the nervous system is like a mountainous region, in which echoes are returned with equal intensity from distant parts. This description was peculiarly applicable to pelvic pain. As a general practitioner he had frequently treated pelvic pain locally, without relief, in cases where it had finally disappeared upon the removal of a distant cause. It was not, in his opinion, possible to establish the seat of any pain unless removal of the supposed cause had established cure. He had failed to find compliance with this formula in the interesting paper under discussion.

DR. DANA stated that he had been disappointed often when sending patients with pelvic pain to gynecologists for examination; and that painful neuroses, even, had in some cases resulted from gynecological treatment.

DR. PECKHAM considered that the reader of the paper had underrated the suffering from direct pressure as a factor of pelvic pain. A retroflexed body or the hypertrophied cervix of an anteflexed body might cause a good deal of suffering by direct pressure upon the sacral nerves. Again, pain in the right or left iliac region might often be attributed to tension where with a shortened broad ligament and lateral deviation of the uterus there was pulling upon the ligament of the opposite side. Pain persisting after operation might later be found to have disappeared. The eye which looks on the sun retains for a time its image. Thus the nerves of other parts after prolonged irritation retain the impression of that irritation and the habit of pain after the removal of the cause. Time is thus required in these cases to perfect a cure.

The speaker endorsed the value attributed to electricity by the author of the paper. Whether it acted by direct influence upon the nerves themselves or by modifying the pelvic circulation was not apparent.

DR. STARR read a preliminary report of

THE STEVENS' COMMISSION.

The meeting adjourned.

Recent Literature.

Lessons on Gynecology. By WILLIAM GOODELL, A.M., M.D. Third Edition. Philadelphia. 1887.

The third edition of this well-known book comes to us, "thoroughly revised, and greatly enlarged." The result is that with all the charm of Dr. Goodell's style we have a work on gynecology which is thoroughly abreast of the times. No one who has ever read one of the author's lectures need be told how interestingly and with how much spirit he treats his subject. From beginning to end of the book it is interesting and instructive reading, and we heartily recommend it to any one, whether student or practitioner, who is interested in the subject.

The Diagnosis and Treatment of Eczema. By TOM ROBINSON, M.D. London: J. & A. Churchill, 1887.

It is unfortunate that a fantastic conception of pathological processes based upon the assumption of an "eczematous diathesis" and expressed in a desultory style of mixed metaphor and incoherent statement should obscure a writer's practical shrewdness. One patient "bursts out into" an eruption, another is "spattered" with vesicles, in others, notably children, eczema may be induced by "storms of uric acid," while another has a "distinct secretion upon his testicles." The skin is the canvas upon which the "eczematous picture" is painted, while the causes of eczema are the various "brushes" with which this "eczematous picture" is produced.

No statement is made, however, as to who may be the artist who employs such brushes to paint such pictures upon such canvas. In the opinion of the author, pityriasis rubra and lupus erythematosus are both varieties of eczema and "where an eczema occurs on both sides of the body, arsenic is of service."

After reading productions like the above, it is comforting to turn to Lord Bacon and to find that he says "Books must follow sciences and not sciences books."

G. H. T.

Differential Diagnosis of the Diseases of the Skin for Students and Practitioners. By CONDICT W. CUTLER, M.S., M.D. G. P. Putnam's Sons: New York and London. 1887.

This book consists almost entirely of a collection of tables of the differential diagnosis of all the diseases of the skin, and the impression derived from reading it, is much the same as that expressed by the Scotchman who was discovered absorbed in Webster's unabridged dictionary and being asked what he thought of the book replied that the stories therein were very pretty but "unco" short. These tables are prepared with care and thoroughness and presumably demanded an amount of labor in their production disproportionate to their usefulness.

G. H. T.

Food Adulteration, and its Detection, with Photomicrographic Plates, and a Bibliographical Appendix. By JESSE P. BATTERSHALL, Ph.D., F.C.S., Chemist, U. S. Laboratory, New York City. Published by E. & F. N. Spon, New York and London: 1887. 328 pp. 8vo. 12 Plates.

This work compressed into a volume of moderate size, the more salient features of the present status of food adulteration as it is exhibited in the United States. It treats of those articles which an extended experience has shown to be most liable to falsification, including however only those admixtures which have actually been detected by chemists of repute, within the past few years. It economizes space by omitting the many rather sensational forms of adulteration mentioned in many earlier treatises on the subject, the practice of which, if they ever did exist, now at least appear to have been wholly discontinued. The methods of examination given are those most approved of by standard authorities, although given often in a condensed form, from the more extensive works on food analysis. The colored photogravure plates of tea leaves, and of those sometimes substituted for them are very excellent. The appendix of bibliography, and American legislation relating to adulteration add greatly to the completeness of the work.

B. F. D.

— A correspondent calls attention to an instance of *la linguistique* from Cornil and Ranvier's "Manuel d'Histologie Pathologique," p. 1036: "*gros rein blanc* (whaxy kydney)."

— The British Trichological Association is the somewhat appalling title of a society which, it is suggested, bears by evolution a somewhat similar relation to the art of the barber that conservative dentistry bears to the crude tooth-pulling of a former generation. Trichopathy is to have a special hospital for its study in theory and practice, and if the society is successful in its aims, the bald heads will disappear from good society. The transcendental barber no longer means to be accosted by the classic inquiry of Mother Goose, but instead of saying how many hairs will make a wig, he will tell us what will make a wig unnecessary.

THE BOSTON

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SOURCES OF SYPHILIS IN THE FEMALE.

PROFESSOR FOURNIER, the French syphilographer, has compiled some statistics relating to the sources of syphilis in the woman. During twenty-seven years, he has made notes, in his private practice, of 887 cases, which 842 were of sexual, and 45 of non-sexual origin. In the second group, which constitutes a series of cases deserving, according to him, the qualification of "unmerited syphilis" ("the syphilis of innocents,") there were 7 cases in which the disease was inherited; 4 in which the disease was accidentally contracted in infancy; 8 cases of infection transmitted to wet-nurses by infants hereditarily tainted; 5 cases of midwives, who had contracted syphilis in their fingers or hands in the practice of their profession; 12 cases of "domestic contagion," derived from nursing infants belonging to nurses or servant girls that were syphilitic (these twelve cases were all observed in married women or young girls); 2 cases of syphilis transmitted by vaccine; 2 of syphilis communicated by catheterization of the Eustachian tube; 1 case consecutive to rape; and 4 of unknown derivation, but certainly not of venereal origin.

Of the 842 cases in which the disease was clearly of sexual origin, 366 were women of known dissolute habits, "women of the town"; 220 were married women; and 256 were persons whose social condition remained unknown.

Passing by the first group, that of the abandoned women, 65 of whom (17.7 per cent.) were play-girls (*filles du théâtre*), and analyzing the 220 cases of syphilis in married women, it appeared that of these there were 164 "that had been honestly and conjugally infected with syphilis"; that is, these women had contracted the disease from their husbands, and without any fault of their own. Of the 220 married women, 56 were doubtful cases; these latter had contracted syphilis from "lovers," for their husbands, when examined, were found exempt from syphilis; a few of them had been syphilitic before their marriage

With regard to the 256 patients whose social posi-

tion could not be satisfactorily ascertained, it seems probable that a certain proportion of them had become infected through no fault of their own; but, on account of the obscurity investing their history, Professor Fournier thought it best to include them all with the 366, making a total of 622 believed to be syphilitic from voluntary indulgence in vice. This left, out of the whole number of syphilitic cases, a percentage of 19, representing a certain number of persons who were suffering from all the horrors of this dire disease solely through the misdeeds of others, without having personally been guilty of any moral delinquency.

These statistics, says Professor Fournier, plead powerfully in favor of more energetic measures for protecting the public, and especially the innocent, against the ravages of this great social scourge.

UNIFORMITY IN OBSTETRIC NOMENCLATURE.

As to the importance of uniformity in obstetric nomenclature there can be no difference of opinion: if conventional symbols have been found convenient, even indispensable, to mathematicians and astronomers, it is quite certain that a uniform method of designating pelvic diameters, fœtal positions and presentations, and other data of exact knowledge would be of great advantage to all who read and teach obstetrics.

To Professor Alexander Russell Simpson, of Edinburgh, belongs the credit of taking the initiatory steps which are likely to result in the adoption of a universal nomenclature. In his introductory lecture[1] at the University of Edinburgh, October 19, 1887, Professor Simpson gave an entertaining and gratifying account of his recent visit to this country, and also a brief history of his own and his associates' efforts to perfect and present to the profession an obstetric nomenclature for the civilized world. The desirability of such a nomenclature was suggested by Professor Simpson to the International Medical Congress which met in London in 1881, and a committee was appointed of different nationalities to consider the subject and report at the next congress. At Copenhagen, however, the committee could report but little progress; but the subject was again referred to the committee for further conference, and subsequently Professor Simpson submitted a scheme to the Edinburgh Obstetrical Society. This scheme with some modifications suggested by the numerous specialists to whom it had been submitted, was presented by Professor Simpson to the International Congress in Washington, for final action. After a long discussion the scheme was referred to a committee consisting of Professors Simpson, Lusk, King and Miller for final revision: this revised report was unanimously adopted.

Copies of the proposed nomenclature are soon to be distributed to the various obstetrical writers and teachers of the countries represented at the congress, and although it is almost inevitable that some changes will be made, it is probable that the scheme will be essentially accepted.

While we cannot reproduce the proposed nomenclature here, we may say that it is essentially the one now followed in the Harvard Medical School. It is proposed, however, and it is indeed necessary, that when initial letters are employed, they shall be those of the corresponding Latin words; and it will therefore be necessary for us to substitute *dextra* and *læva* for right and left; O. R. P. will thus become O. D. P., while O. L. A. remains the same. The only decided change to us is the manner of designating presentations of the shoulder. Having said this much it is unnecessary for us to express our approval of the new nomenclature, and our hope that it will meet with universal acceptation.

[1] British Medical Journal, Nov. 5, 1887.

THE NEW MASSACHUSETTS "ACT CONCERNING COMMITMENTS AND TRANSFERS OF THE INSANE."

AT the close of the last session of the Massachusetts Legislature, a bill was passed which seems worthy of more consideration than was given to it by the body which passed it. We refer to the "Act concerning Commitments and Transfers of the Insane." This act provides, in the first place, that on and after the first day of July, 1887, each State Lunatic Hospital shall receive patients only from a certain district surrounding that hospital, the State outside of Suffolk County being divided into four districts. These districts, however, are arranged so as to take in the four older hospitals, Danvers, Taunton, Worcester, and Northampton, and patients from any of these districts may, if they choose, be sent to the new hospital at Westborough — an arrangement which would seem to be reasonably simple and satisfactory. The Suffolk County insane, however, are excepted from this provision. They "may be committed alternately and in equal numbers to the State Lunatic Hospitals at Danvers, Taunton, Worcester, the Westborough Insane Hospital, and the Boston Lunatic Hospital at South Boston; omitting from the enumeration such insane persons as, upon request of their friends, shall be sent to the Westborough Insane Hospital, the McLean Asylum, or any duly authorized private asylum." Further provisions exempt patients who are able to pay, from the provisions of this act, and put discretionary power as to its enforcement into the hands of the State Board of Lunacy and Charity.

The chief argument — and one which, to the ordinary mind, had a show of fairness in behalf of the establishment of a special hospital for the insane under homœopathic management — was that it was no more than right that the insane patient might be treated, if he or his friends chose, by physicians of the homœopathic school. Therefore, the hospital at Westborough was established, and provision was made for furnishing homœopathic treatment to such insane patients as desired it — a provision which has been

maintained in the act under discussion. The pauper insane in Suffolk County, however, are placed in a curious position by this act. If they desire homœopathic treatment at Westborough, they are privileged to claim it; but, if they object to homœopathic treatment, they must take pains to become insane during the terms assigned to the other hospitals, for, if they fall insane during the term assigned to Westborough, they have no choice but to be sent there and receive homœopathic treatment. Moreover, in spite of the great over-crowding of the Boston Lunatic Hospital, it must receive its quota of one-fifth of the Suffolk County insane in the year, which, at present, is impossible.

We do not know whether this act was framed with deliberation or in ignorance. It was certainly hurried through the Legislature at the close of the session without due deliberation. By its provisions, four-fifths of the Suffolk County insane have the privilege of choice between regular and homœopathic treatment in the hospitals. What justice or what fairness there is in excluding the other fifth from such a privilege, and in sending them to Westborough whether they wish or not, is known only to the framers of the act. To the ordinary mind, it does not seem to be either just or right, and certainly, if any class of the insane deserve fair treatment, it is the unhappy class in whom poverty is added to their disease.

ON THE PSYCHOLOGY OF JOKING.

IN a very characteristic lecture delivered before the Medical Society of London, October 17, 1887,[1] Dr. Hughlings Jackson calls punning a species of "mental diplopia." "It is," he says, "a caricature of normal mentation. A miser has been defined as an amateur pauper; the habitual drunkard is certainly an amateur lunatic; and in the same style of speaking we may say that punning is playing at being foolish; it is only morbid in that slender sense."

Further on, however, our lecturer treats the punster with greater respect. He thinks that it was a great advance when men began to value things for their beauty apart from their use; when over and above mind required for mere animal existence, he had some surplus mind for greater ends of life. "For the dawn of a sense of the merely ridiculous, as in punning and the simplest jokes shows the same thing as the dawn of asthetic feeling — surplus mind, something over and above that required for getting food, and for mere animal indulgence."

Dr. Jackson finally finds reason for the conclusion "that persons who are deficient in appreciation of jocosities in their degrees of evolution, are in corresponding degrees deficiently realistic in the scientific conception," "*pari passu* with the evolution of the sentiment of jocosity (playing at unreality) in the evolution of power of realistic scientific conception — from sense of the merely ridiculous with parallel realistic conception of simple things, up to sense of humor with parallel realistic complex things."

[1] Lancet, October 22, 1887.

MEDICAL NOTES.

—The Crematory of Paris will be opened during the present month. It is estimated that the furnaces will be able to consume 4,500 bodies annually, which is said to be about the average number of corpses leaving the hospitals in Paris during the year.

— A correspondent of the *Lancet* calls attention *à propos* of the recent anti-vaccination agitation in England to figures taken from a very instructive colonial surgeon's report for 1886, by Mr. P. B. C. Ayres, of Hong Kong:

Small-pox Hospital (European), 11 admissions, with one death — that is, a mortality of 9.1 per cent. Small-pox wards of Tung Wa Hospital (Chinese), 54 admissions, with 42 deaths — a mortality of 77.7 per cent. In connection with the European cases it is stated in the report that "most of the cases were of a mild type," but that the Asiatic cases were "mostly of the worst type, unvaccinated, and the majority children.

— Dr. Graham, of Canada, in a recent address, quoted the following account from Dr. Roouth of an interview held by the latter with the late Dr. Golding Bird a few weeks before his death. "He was" says Dr. Roouth, "then in the zenith of his popularity, and recognized by all as one of the ablest of our London physicians. I called upon him one morning with a relative to consult him. Several other medical men preceded me. His rooms were full, and I had to wait three hours ere I could obtain admission to his study and consult him about the case. I congratulated him on his success in practice. 'Yes,' he said to me, 'you are right; but I wish nevertheless, to make your remark a text for a little parting advice. You see me at a little over forty in full practice, my rooms are full and I am making my several thousands per annum (I think he said seven), and if I die to-morrow I do not leave as many hundreds to my family. All this I have done by sheer perseverance, unceasing hard work, and no holiday. But I am to-day a wreck. I have fatal disease of the heart, the result of anxiety and hard work. I know I cannot live many months and my parting advice to you is this: never mind at what loss, take your six weeks' holidays. It may delay your success, but it will insure its development. Otherwise you will find yourself at my age a prosperous practitioner, but a dying old man.' Six months after this conversation he was dead."

— A correspondent writes to the *British Medical Journal:* There are said to be at present no fewer than 2,600 soldiers in hospital in the Odessa district under treatment for ophthalmia of a more or less acute form. It has, it is stated, been found necessary to erect tem-

porary wooden hospitals for the accommodation of this extraordinary number of ophthalmic patients. No doubt the excessively hot, rainless, and dusty summer, and the dazzling sun-glare on the barren steppes outside where the garrison were encamped for four months, have this season abnormally swelled the ordinary number of patients from this disease, which every autumn crowds the military hospitals. In the northern provinces the hospitals are usually filled in the early spring with this class of patients, who suffer from the snow-glare of the protracted northern winters. One would naturally suppose that owing to the general prevalence of this affection in the Russian army, ophthalmia would not only be especially studied by the medical faculty, but the Russian military specialist would excel in theoretical and practical knowledge of this distressing complaint. But such is not the case. The greater part of these ophthalmic patients are, it is said, never treated by a qualified practitioner, but are left entirely in the hands of ignorant regimental dispensers. There are no available statistics to show how many Russian soldiers are every year rendered permanently blind through aggravated ophthalmia and neglect of treatment, but on the authority of the first ophthalmic medical men in Russia, the number is very large.

BOSTON AND NEW ENGLAND.

— The Medical Department of Dartmouth College graduated a class of twenty-eight on the evening of November 22d.

— The Boston Medical Library Association have recently received by the will of the late Charles Eliot Ware, M.D., the larger portion of his medical library. The gift comprises nearly two hundred and fifty volumes of standard medical works, and one thousand medical pamphlets and periodicals.

NEW YORK.

— On the 18th of November the "anniversary discourse" before the Academy of Medicine was delivered by Dr. Andrew H. Smith, who chose for his subject, "The Family Physician of the Future."

— Typhoid fever is said to have become so prevalent at Albany that the Mayor, at the instance of the Secretary of the Board of Health, has issued a proclamation requesting the citizens to boil the reservoir water before using it. The water is obtained from the Hudson River, and as the latter is unusually low, it is believed to be of even worse quality than is ordinarily the case. It is at all times, unfortunately, liable to contamination from the sewage of Troy, Cohoes, and other places along the upper Hudson, as well as that from the towns on the Mohawk.

— At the last meeting of the Society of Medical Jurisprudence and State Medicine, Dr. E. Miller Reid, of Baltimore, Chairman of the Section on Medical Jurisprudence of the American Medical Association, read a paper on "The Application of Legal Medicine to the Exigencies of the Times."

Miscellany.

ANTIPYRIN IN SEA-SICKNESS.

THE Paris correspondent of the *Lancet* writes: "The Société de Biologie has devoted part of its last two sittings to the discussion of the different means recommended for the relief of sea-sickness. A note was presented by M. Hantz on the best way of administering cocaine, and received without any expression of opinion. M. Dupuy said that sea-sickness was more severely experienced by dyspeptic subjects, and particularly those who had dilatation of the stomach. In eleven cases he had given antipyrin in doses of from two to three grammes for a few days before embarking, and the patients had all informed him that they had been free from sickness. M. Dastre said he had instituted a series of experiments upon animals, imitating as closely as possible the movements of 'pitching' and 'rolling.' He has found that there was an incredible displacement of the abdominal viscera, which strike against the diaphragm and cause the gastric uneasiness. The body struggles with these displacements by means of muscular contractions, and the respiratory rhythm accommodates itself to them. Professor Brown-Séquard remarked that this theory of visceral displacement was very old, and one which he had been able to verify in his frequent passages across the Atlantic. It was evidently the view entertained by Wollaston, who recommended Arago to place a pad over his stomach when he crossed the Channel. M. Maurel had no doubt as to the influence of the stomach, but thought the cerebral shock also played a part in the determination of the symptoms, inasmuch as the sickness always occurs when the boat is going down, never when it is being lifted up. The best preventive was lying on the back. Beyond the statement that sea-sickness is associated with dilatation of the stomach, and the hope held out by M. Dupuy that in antipyrin we now possess a remedy for it, there was nothing new in the views expressed by the different speakers."

TABLE OF FEES IN BOSTON IN 1785.

AT a meeting of the Boston Medical Society, December 7, 1785, the committee appointed to regulate the fees of practitioners in physic in this town having duly considered the business, report as follows, viz:

Midwifery, £2, 8*s*.
Capital operation, viz.: amputation of the large extremities, stone, trepan and the excision of large tumors, £5.
Amputation of fingers and small tumors, £1, 6*s*.
Tapping for dropsy, dislocations and fractures of large bones, £1, 8*s*.
Dislocation and fractures of large (?) bones, 14*s*.
Operation for fistula in ano according to the difficulty of the operation from 28*s*. to 100*s*.
Visit and passing the catheter, 12*s*., if frequently repeated 8*s*.
Dressing at surgeon's house, 4*s*.
Single visit, 4*s*.
Consultation, 1st, 12*s*., each visit after, 6*s*.
Rising in the night, 20*s*.; extra advice, 12*s*.
Decoction of red bark pr. lb., 8*s*.; common, do., 4*s*.
Huxham's tincture, pr. dr. 2*s*.; simple 1*s*., 6*d*.; red, do., 3*s*.
Emetic, cathartic, anodyne, each, 2*s*.
Blister large, 3*s*.; middling, do., 5*s*., small, 1*s*.

Visit in a vessel in the stream above the castle, 9*s.*; below the castle, 28*s.*
Sp't Mind, pr. dr., 1*s.*, powdered red bark, pr. oz., 6*s.*, common, do., 3*s.*
Alterative powders, 4*d.* each, pills, 3*d.*
Elec., pr. oz, 1*s.* 6*d.*
Juleps and mixtures, 9*d.* each.
Visit in the country beyond 8 miles, 6*s.* pr. mile; short of 8 miles, 4*s.* pr. mile.
Venereal cases, 60*s.*
N. B.— From the 25th of August, 1795, all the above charges were raised 50 pr. cent.

This schedule of fees were sent to the Boston Medical Library Association, by Dr. J. Nelson Borland of New London, Conn. It presumably belonged to his great-grandfather, Dr. James Lloyd. November 7, 1887.

MERCURIAL WASHES SOMETIMES DANGEROUS.

A CORRESPONDENT requests us to republish the concluding paragraph of a lecture on "Practical Legal Medicine," — given at St. Mary's Hospital by A. J. Pepper, M.S., late Examiner in Forensic Medicine to the University of London, etc., and published in the *London Lancet* of November 5, 1887, p. 905, — as a gentle *caveat* in the present fashionable practice of injecting and washing wounds and other surfaces with poisoning solutions.

Mr. Pepper says: "In concluding this lecture, I will direct your attention to a source of danger to life which, so far as I know, has not hitherto been noticed in the medical press. I refer to *poisoning from the use of perchloride of mercury in the form of very weak solutions* — for example, 1 in 1500 or 2000. I understand that in midwifery practice it is not at all uncommon to employ injections of the strength just mentioned for cleansing purposes, not only as a corrective against septic discharges, but also as a prophylactic Where the patient is free from organic disease of the kidneys one has little need to fear untoward consequences from the treatment under consideration. I am aware of two cases of death from acute inflamation of the bowels following closely on the injection of very weak mercurial solutions into the vagina shortly after parturition. As in each instance no other cause of the fatal complication could be discovered, there is little doubt that the acute irritative lesions in the intestines were due to the perchloride in the course of its elimination. The action of the salt was concentrated, so to speak, in this particular region by reason of grave renal affection. In one of the two cases I made a very exhaustive post-mortem examination. The whole of the small and large intestine was acutely inflamed. There were thousands of hæmorrhagic patches, punctate and irregular in shape. There were a few minute recent ulcers. The catarrhal congestion was extreme. Lymph was effused into the substance and upon the surface of the mucous membrane. Slight general peritonitis seemed to have started at the middle of the colon, where the intestinal lesion was more marked than elsewhere. The stomach was not affected. The kidneys were in an advanced state of fatty degeneration. No aperients had been administered to the patient, but a solution of bichloride of mercury (1 in 2000) had been injected into the vagina to prevent decomposition of the lochia. Profuse diarrhœa ensued, and continued until death. The body temperature was never raised, and latterly it was subnormal. I was at a loss to account for the ultimate cause of the diarrhœa and its fatal consequences until the circumstances were explained to me by an obstetric physician who was present at the necropsy, and who had witnessed a precisely similar case in his own practice. The lesson to be learnt from the foregoing narrative is — that even a very attenuated solution of a mercurial salt should not be employed as a vaginal injection without first ascertaining the state of the kidneys by an examination of the urine."

THE VERMONT NERVINE ESTABLISHMENT.

THIS institution is located at Burlington, Vt., and managed by Dr. A. J. Willard, late Superintendent and Resident Physician of the Mary Fletcher Hospital. Though still in its infancy, it is in successful operation, giving good promise of permanence and usefulness. The manager is desirous of securing endowments, to the end that the advantages which he offers may be made useful to nervous invalids who are unable to pay for such treatment as is desirable for this large and increasing class of patients. The Adams Nervine Asylum, the benefits of which are limited to residents of Massachusetts, has shown what may be done in this direction.

LAPAROTOMY FOR TUBERCULAR PERITONITIS.

A MOST interesting discussion on the treatment of this affection took place at a meeting of the Clinical Society of London, October 28th, with papers by Mr. Barwell and others. This *crux medicorum*, which has long been given over by medicine, seems to have been taken up enthusiastically by the broad shoulders of surgery. The *Medical Press*, commenting on the discussion, says:

"The number of cases on record in which laparotomy has been performed for the relief of tubercular peritonitis is now sufficiently large to enable us to form some opinion as to its propriety and as to its effects. Mr. Treves quoted thirty-six cases, in only six of which recovery did not take place, and this alone would suffice to warrant further trials when we consider the intractable nature and fatal tendency of the malady. A series of ninety-six cases brought before the Congress of German Surgeons yields almost, if not quite, as favorable statistics. In view of these successes, it may almost be laid down as a rule of treatment that, whenever we detect symptoms of tubercular peritonitis, the proper course is to open the abdomen and cleanse the peritoneum. The extraordinary impunity with which the peritoneal cavity can be manipulated under these circumstances is not the least interesting feature of the operation. The fact has long been recognized that, when the membrane has been the seat of chronic inflammatory changes, it is less apt to resent interference than under normal conditions, and advantage is taken of this to subject it to treatment which would have inspired surgeons of but a few years since with unmitigated horror."

Evidence was presented in the discussion that con-

comitant tuberculosis of the lungs is often favorably influenced by the amelioration of the abdominal disease. The accuracy of the diagnosis in some of the cases of most marked benefit from surgical treatment was confirmed by microscopical examination of the granulations with which the peritoneum was covered.

In several of the cases alluded to, the ascites had been first treated by aspiration, which, though it relieved the mechanical distress, did not have the effect of the more daring operation which was subsequently performed. Most operators attach great importance to the use of the drainage-tube, which is generally brought out through the abdominal wound, but Mr. Barwell did not employ it in the case which he brought before the Society, and objected to it as unnecessary, and even useless, seeing that a tube from the front could not be reasonably expected to drain the abdominal cavity of a patient lying on the back. In any case, he maintained that it was preferable to give the patient a chance of doing without it for the first twenty-four hours, even if it had subsequently to be inserted. Although Mr. Treves was firm in his advocacy of the use of the tube, which he considered a principle of the treatment, one of his cases tended to prove the contrary, for, although the tube was inserted, subsequent accumulation took place, in spite of all the efforts made to obtain a free discharge. It is not without interest to note that in this particular case, the patient being a child, Mr. Treves went a step further, and injected a solution of iodine, again not only with untoward result, but with positive advantage to the patient, whose temperature then and there fell to normal, and never after rose.

ANTAGONISM AMONGST BACTERIA.

DR. C. GARRÉ, of Basel, has found in cultivation of micro-organisms that there is a sharp antagonism amongst some, probably through their excretions (*Deutsche Med. Wochenschr., No.* 27, 1887. *London Medical Record, October*, 1887). For instance, some aërobes, which spread only on the surface of gelatine, in a short time so alter the nutritive substratum that certain other micro-organisms cannot exist in it. He says that this fact has not been taken into consideration as yet, though various observations made in the cultivation of cholera and typhoid-bacilli, and experiments on the multiplication of pathogenic bacteria in water have shown that there is probably antagonism between the pathogenic species and saprophytes. To elucidate this, Garré adduced the following facts. A non-liquefying cultivation was planted on the surface of meat-peptone gelatine. After complete development, it was removed with a sterilized platinum spatula. Other micro-organisms were then planted on the remaining sterilized medium. A comparison of the retarded growth with another cultivation gives the degree of antagonism between the two species. With liquefying species the nourishing substratum was filtered through potter's earth, and gelatine added afterwards. In this way the mutual relations of a number of pathogenic and non-pathogenic species were tested. One species proved to be pre-eminently antagonistic; namely the bacillus fluorescens putridus, described by Flügge. It excretes specific, easily diffusible substances, the oxidation-products of which tinge the gelatine with a greenish color, and hinder the development of the one set of species, whilst it has no effect whatever on the other set. If such cultivations were removed from the gelatine in the manner described on the third or fourth day, and the staphylococcus pyogenes aureus inoculated on this "fluorescens medium," no development took place, nor did the typhoid-bacillus, the pneumonia-bacillus, etc., develop. The Asiatic cholera-bacillus and the bacillus-mycoides developed but slowly, but the bacillus-anthracis and the comma-bacillus had a luxuriant growth. It appears, therefore, that the bacillus fluorescens putridus is a pronounced enemy of the pneumonia and typhoid-bacilli, and by its implantation the nutritive substratum is protected against them. The reverse, however, does not hold good. There are, however, so-called symbiotic bacteria that flourish side by side, and some even, which Garré terms metabiotic bacteria, whose existence depends on the presence of others. Garré asserts that these facts are not confined to experiments in test-tubes. He points to the strife between saprophytes and cholera-bacilli in ichor and canal water, the cholera-bacilli always succumbing. Such conditions may occur in the intestines, and may in some cases lead to the erroneous supposition of natural indisposition to cholera. The torpid development of periostitis of the jaw, when the staphylococcus must come into conflict with other species, is explained by Garré on the supposition of such antagonism. He closes with the two following points as regards immunity. 1. That immunity from a certain disease may be caused not only by micro-organisms of like species (vaccination), but perhaps by entirely different microbes. 2. Antagonism quickly produced in the living body may favorably affect infectious diseases already existing. If this be true, a wide and fruitful field is open up to bacterial treatment.

MEDICAL APHORISMS.

A CORRESPONDENT signing himself "Artz," sends to the *Canada Lancet* the following professional aphorisms of Amédée Latour:

1. Life is short, patients fastidious, and the brethren deceptive. 2. Practice is a field of which tact is the manure. 3. Patients are comparable to flannel — neither can be quilted without danger. 4. The physician who absents himself runs the same risk as the lover who leaves his mistress; he is pretty sure to find himself supplanted. 5. Would you rid yourself of a tiresome patient, present your bill. 6. The patient who pays his attendant is but exacting; he who does not is a despot. 7. The physician who depends on the gratitude of his patient for his fee is like the traveller who waited on the bank of a river until it finished flowing, so that he might cross to the other side. 8. Modesty, simplicity, truthfulness! cleansing virtues, everywhere but at the bedside; there simplicity is construed as *hesitation*, modesty as *want of confidence*, truth as *impoliteness*. 9. To keep within the limits of a dignified assurance without falling into the ridiculous vauntings of the boaster, constitutes the supreme talent of the physician. 10. Remember always to appear to be doing something — above all, when you are doing nothing. 11. With equal and even inferior talent, the cleanly and genteely-dressed physician has a great advantage over the dirty or untidy one.

Correspondence.

THE CONDITION OF THE NEW YORK QUARANTINE INDEFENSIBLE.

NEW YORK, November 19, 1887.

MR. EDITOR,—Will you please oblige me by publishing this correction of mistake in your summary of the proceedings of the recent meeting of the American Public Health Association, in your issue of 17th inst., so far as they relate to my remarks on the condition of the New York Quarantine Station? So far from attempting to defend it, I distinctly declared it to be disgraceful to the State. That while in its conception and plan, I believed it to be the most complete quarantine establishment in the world, it had never been finished and adequately equipped, and that much that had been done up to fifteen years ago, had been neglected and allowed to decay in the face of continuous dangers. But, nevertheless, such measures had been extemporized in the recent emergency, as, in my judgment, have been effectual in preventing any danger of the introduction of Cholera by the *Alesia's* and *Britannia's* passengers. Truly yours,

A. N. BELL.

— Sir William Gull, the eminent English physician, who has lately suffered from an attack of hemiplegia is recovering.

— On Hospital Sunday at Birmingham, England, the Jews arranged to hold a service so as to be in harmony with their Christian fellow citizens in the charitable movement. The theatres also joined in the work, the orchestra furnishing the musical part of the programme, and a clergyman delivering an address.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 12, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhœal Diseases.	Typhoid Fever.	Diph. & Croup.
New York	1,481,920	658	238	17.70	13.95	3.30	.45	10 20
Philadelphia	993,801	345	110	13.80	12.60	1.80	4.20	6.90
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	120	37	15.71	15.71	2.49	2.49	3.32
Boston	400,000	194	73	19.38	14.28	2 55	2.04	8.16
New Orleans	242,750	116	31	13.76	13.76	3.44	.86	6.02
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	80	19	12.50	12.50	1.25	3.75	5.00
Pittsburgh	210,000	76	32	33.00	3.64	3.64	6.00	18.48
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	16	6	31.25	12.50	18 75	6.26	6.25
Charleston	60,145	27	11	22.20	3 70	7.40	3.70	7.40
Portland	40,000	16	2	12.50	6.25	—	6.25	—
Worcester	68,383	19	10	21.04	—	5.26	—	10.52
Lowell	64,051	32	7	12.52	18.78	—	6.25	6.26
Cambridge	59,960	20	7	30.00	15.00	—	5.00	20.00
Fall River	56,863	19	8	42.08	21.04	21.04	5.26	10.52
Lynn	45,861	11	4	9.09	45.45	—	—	9.09
Lawrence	38,825	26	6	19.25	7.70	3.85	7.70	3 85
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	10	0	10.00	—	—	—	10.00
Somerville	29,952	16	4	31.25	12.50	—	6.25	—
Salem	28,084	10	3	10.00	30.00	10.00	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	14	4	42 84	7.14	—	7.14	7.14
Taunton	23,674	7	4	28.56	—	—	—	28.56
Haverhill	21,795	7	3	—	—	—	—	—
Gloucester	21,714	5	3	—	—	—	—	—
Brockton	20,783	7	2	—	—	—	—	—
Newton	19,759	8	1	25.00	12.50	12.50	—	—
Malden	16,407	5	1	20.00	—	—	—	20.00
Fitchburg	15,375	7	3	—	14.28	—	—	—
Waltham	14,699	4	0	—	25.00	—	—	—
Newburyport	13,716	8	1	12.50	25.00	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,873: under five years of age 630; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 331, consumption 245, acute lung diseases 263, diphtheria and croup, 158, diarrhœal diseases 56, typhoid fever 44, scarlet fever 35, malarial fever 14, cerebro-spinal meningitis seven, puerperal fever seven, measles six, erysipelas five, whooping-cough three. From scarlet fever, Boston 13, New York nine, Somerville three, Philadelphia, District of Columbia and Chelsea two each, Portland, Cambridge and Newburyport one each. From malarial fever, New York six, New Orleans four, Baltimore three, Lawrence one. From cerebro-spinal meningitis, New York, Baltimore, Worcester, Fall River, Chelsea, Haverhill and Newburyport one each. From puerperal fever, Pittsburgh three, New York, Philadelphia, Charleston and Chelsea one each. From measles, New York four, Baltimore two. From erysipelas, New York two, Baltimore, Pittsburgh and Somerville one each. From whooping-cough, Baltimore two, New York one. From small-pox New York one.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending October 29th, the death-rate was 21.5. Deaths reported 3,808: infants under one year of age 920; scarlet fever 138, measles 76, diarrhœa 65, whooping-cough 68, fever 50, diphtheria 45, small-pox (Sheffield 19, London, Bristol and Birmingham one each), 22.

The death-rates ranged from 13.1 in Leicester to 32.1 in Preston; Birmingham 18.1; Bradford 20.0; Brighton 19.9; Halifax 15.2; Hull 15.1; Leeds 21.0; Liverpool 24.8; London 21.5; Manchester 25.0; Newcastle-on-Tyne 23.6; Sheffield 24.6; Sunderland 18.1.

In Edinburgh 21.2; Glasgow 24.4; Dublin 32.1.

The meteorological record for the week ending November 12, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Nov. 12, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,... 6	30.15	42.0	51.0	28.0	69.0	55.0	71.0	65.0	W.	S.W.	S.W.	12	12	16	O.	F.	C.		
Monday,.. 7	29.94	55.0	69.0	44.0	65.0	43.0	74.0	61.0	S.W.	S.W.	S.W.	16	13	12	F.	C.	C.		
Tuesday,.. 8	29.99	49.0	63.0	39.0	53.0	47.0	63.0	16.0	W.	N.	N.W.	12	18	14	O.	F.	C.		
Wednes,.. 9	30.28	36.0	45.0	26.0	67.0	36.0	64.0	56.0	N.	W.	W.	12	6	8	C.	C.	C.		
Thursday, 10	29.83	43.0	50.0	30.0	53.0	63.0	100.0	72.0	W.	S.	S.E.	2	10	16	O.	O.	R.	7	.82
Friday, ... 11	29 28	37.0	48.0	26.0	82.0	76.0	96.0	85.0	W.	W.	W.	18	15	15	O.	O.	N.	1	†T.
Saturday,. 12	29.38	38.0	43.0	34.0	83.0	60.0	86.0	76.0	N.W.	N.W.	N.W.	24	24	15	C.	O.	C.		
Mean, the Week.	29.864	42.9	54.0	34.0				61.6											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 12, 1887, TO NOVEMBER 18, 1887.

BYRNE, C. B., captain and assistant surgeon. Relieved from temporary duty at Fort McHenry, Md., and will return to his proper station, Washington Barracks, D. C. S. O. 242, Division of the Atlantic, November 11, 1887.

WALKER, F. V., first lieutenant and assistant surgeon. Relieved from duty at Post of San Antonio and assigned to duty at Fort Ringgold, Tex. S. O. 150, Department of Texas, November 8, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 19, 1887.

RIXEY, P. M., passed assistant surgeon. Ordered to the Naval Dispensary, Washington, D. C.

SOCIETY NOTICES.

SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. — A Southern Surgical and Gynecological Association has been formed with the following officers: Dr. W. D. Haggard, of Nashville, Tenn., President; Drs. R. D. Webb and J. W. Sears, both of Birmingham, First and Second Vice-Presidents, respectively; Dr. W. E. B Davis, of Birmingham, Alabama, Secretary; and Dr. H. P. Cochrane, of Birmingham, Treasurer.

NORFOLK DISTRICT MEDICAL SOCIETY. — A meeting for Scientific Improvement will be held at the Hall of the Roxbury City Guard, 67 Warren Street, Roxbury, November 29, 1887, at 7.45, P.M. Communications: I. "Lessons from a Year in Obstetrics. Topics: Antisepsis: Abdominal Palpation; Ante-partum Hemorrhage; Uræmia," H. W. Broughton, M.D II. "The Examination of Drinking-Water," J. A. Tanner, M.D. Dr. Benjamin Cushing, Dr. D. D. Gilbert, and Dr. E. P. Gerry, are expected to take part in the discussions. Members of other Districts are cordially invited to be present and participate.

S. ALLEN POTTER, M.D., *Secretary*.

BOOKS AND PAMPHLETS RECEIVED.

Notes on the Cause and Treatment of Functional Insomnia. By B Sachs, M.D., of New York. 1887. (Reprint.)

Erfahrungen eines Lungenkranken. Von D. L. Friedmann, Arzt in Berka (Thüringen) Nervi (Italien). Berlin. 1887.

In Thral lom. A Psychological Romance. By Leon Mead. Fireside Series, No. 33, November, 1887. New York: J. S. Ogilvie & Co.

Comparison between the Surgical Diseases of the White and Colored Races. By Louis McLane Tiffany, M.D., Professor of Surgery in the University of Maryland. 1887. (Reprint.)

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M.A., M.D., LL.D., etc. Sixth Edition. Revised and Enlarged. New York: D. Appleton & Co. 1887.

Four Months among the Surgeons of Europe. By N. Senn, M.D., Ph.D., of Milwaukee, Wis., Attending Surgeon to the Milwaukee Hospital; Professor of the Principles and Practice of Surgery and Clinical Surgery in the College of Physicians and Surgeons, Chicago, Ill. 1887. (Reprint.)

On the Treatment of Felon without Incision. By L. Duncan Bulkley, A.M., M.D., Attending Physician to the New York Skin and Cancer Hospital, etc. 1887. (Reprint.)

A Short Manual of Surgical Operations. By Arthur E. J. Barker, F.R.C.S., Surgeon to University College Hospital, etc. With 61 illustrations. London: Longmans, Green & Co. 1887.

Persistent Vomiting of Labor arrested by Tincture of Iodine. By Llewellyn Eliot, M.D., Assistant Physician Central Dispensary, Emergency Hospital, etc., Washington, D. C. 1887. (Reprint.)

Supra-pubic Lithotomy: A Historical Sketch. By Charles W. Dulles, M.D. Surgeon to Out-Patient Department in the Hospital of the University of Pennsylvania, and in the Presbyterian Hospital in Philadelphia, etc. 1887. (Reprint.)

A Handbook on the Diseases of the Skin, with special Reference to Diagnosis and Treatment. By Robert Liveing, A.M., and M.D., Cantab., F.R.C.P., London. Fifth Edition Revised and Enlarged. London: Longmans, Green & Co. 1887.

Dental Caries and the Prevention of Dental Caries. A Series of Papers reprinted from the Journal of the British Dental Association. By Henry Sevill, M.R.C.S. and L.D.D.S., Eng. Second Edition. London: Baillière, Tindall & Cox. 1887.

One Year's Statistics of Lithotomy Operations performed in the Hyderabad Civil Hospital, Sind, India. By Surgeon-Major B. C. Keelan, Indian Medical Department, Civil Surgeon and Superintendent of the Medical School, Hyderabad, Sind. Bombay, 1887.

Diet in Cancer: I. Full Text of Nine Cases. II. Theoretical Considerations. By Ephraim Cutter, A.M., M.D., LL.D., Associate Member Philosophical Society of Great Britain; Corresponding Member Societe Belge de Microscopie, etc. 1887. (Reprint.)

On the Occurrence of Ulcers resulting from Spontaneous Gangrene of the Skin during the later Stages of Syphilis, and their Relation to Syphilis. By Hermann G. Koltz, M.D., Attending Physician to the German Hospital and Dispensary of New York. 1887. (Reprint.)

A Manual of Organic Materia Medica. Being a Guide to Materia Medica of the Vegetable and Animal Kingdoms, for the use of Students, Druggists, Pharmacists and Physicians. By John M. Maisch, Phar. D., etc. Third edition with 257 illustrations. Lea Brothers & Co. 1887.

A Dictionary of Terms used in Medicine and the Collateral Sciences. By the late Richard D. Hoblyn, M.A., Oxon. Eleventh Edition Revised Throughout, with Numerous Additions. By John A. P. Price, B. A., M.D., Oxon., etc. London: Whittaker & Co. George Bell & Sons. 1887.

On Arrested Cerebral Development, with Special Reference to its Cortical Pathology. By B. Sachs, M.D., Instructor in Mental and Nervous Diseases at New York Polyclinic; Clinical Assistant to the Chair of Nervous Diseases, College of Physicians and Surgeons, New York. 1887. (Reprint.)

Hydrophobia. An Account of M. Pasteur's System, containing a Translation of all his Communications on the Subject, the Technique of his Method, and the Latest Statistical Results. By Renaud Suzor, M.B., C.M., Edin., and M.D., Paris. With 7 illustrations. London: Chatto & Windus, Piccadilly. 1887.

Contusion of the Abdomen, with Rupture of the Intestine. Being the Essential Part of an Essay awarded the Cartwright Prize of the Alumni Association of the College of Physicians and Surgeons, of New York. By B. Farquhar Curtis, M.D., Assistant Surgeon to the New York Cancer Hospital. 1887. (Reprint.)

Original Articles.

PULMONARY TUBERCULOSIS AS A SEQUEL TO ORDINARY PLEURISY WITH EFFUSION.[1]

BY HERMAN F. VICKERY, M.D., OF BOSTON,
One of the Physicians to Out-patients, Massachusetts General Hospital, and Assistant in Clinical Medicine, Harvard Medical School.

THE object of this paper is to show the possibility of a pleurisy with serous effusion being, clinically, the first step towards consumption, or, in other words, that a man who has heretofore been apparently sound, and falls ill with acute pleurisy, may be destined, finally, to succumb to pulmonary tuberculosis.

Undoubtedly, this proposition will be accepted by many unhesitatingly. There is ample authority for making it. We may instance Gerhardt,[2] Niemeyer,[3] Germain Sée,[4] Bartholow,[5] Anstie,[6] and Donaldson.[7] Strümpell[8] says: "In an ætiological sense, we must declare the larger part of the ordinary 'pleuritic effusions,' which, clinically, seem to be primary, to be tubercular. . . . The further course of the cases, if we can watch them for years, almost always permits us, finally, to recognize the tubercular nature of the disease." Indeed, some have claimed that every pleurisy is tuberculous in its origin.

On the other hand, Donaldson[9] states that "of fifty-three cases reported by Blakiston, not one became phthisical during several years after recovery from the pleurisy." And Flint[10] regarded pleurisy as having "little or no tendency to eventuate in phthisis."

In August, 1884, Chauffard and Gombault[11] made a preliminary report of certain experiments having a direct bearing upon our subject. They injected into the peritoneal cavities of twenty-three guinea-pigs a small amount of fluid obtained from serous cavities; twenty of the twenty-one cases from whom the fluids were taken had pleuritic trouble, and one peritonitis. In some cases, however, the fluid was purulent, but in the rest it was serous. Other animals were kept with the inoculated ones, so as to control the experiments, and scientific cleanliness was observed. Of the twenty-three cases, in four there was no result, death being too speedy, in nine there was a negative result, and in ten there was positive tuberculosis. The experiments permitted them, in certain instances, to affirm the tubercular nature of a pleurisy which had apparently terminated in complete recovery.

Dunin, writing upon the present subject, says in the *Gazette Hebdomadaire* of May 6, 1887: "In the majority of cases, there is reason to suspect the tubercular diathesis." He evidently regards this as a conservative statement. He feels able in many instances to distinguish the portentous cases from the benign. The tubercular case is usually young. Being in good health, he is suddenly seized with high fever, perhaps a chill, great pain in the side, and sometimes with somnolence, severe headache, or delirium; the course is tedious; the amount of effusion may not be large, but it is not readily absorbed, and, even if we aspirate, the fever persists, so that convalescence may be delayed for weeks or months.

Usually, the fluid is serous. It is sometimes excessively coagulable: out of three of this sort, two have died of phthisis, and the third, although still well himself, has lost a brother from the same disease.

The benign form is chronic, and insidious in its onset, the patient seldom seeking medical advice till, after some weeks, the effusion begins to cause dyspnœa.

Having myself become greatly interested in the matter, I will venture to report a number of positive cases, of which four have been kindly described to me by others, and the remainder have come under my personal observation.

Unfortunately, I have not been able to follow up a series of cases, so as to learn what proportion of the whole number developed pulmonary trouble eventually, but I should certainly expect to find that proportion much greater than was observed by Flint or Blakiston.

CASE I. Reported by Mr. A. F. Chandler, Medical Student. R. B., aged twenty-three. Family history good. Habits alcoholic. In April, 1886, after exposure to wet and cold, he began to have a slight cough, with scanty, white, and frothy expectoration. He was tapped in the left side, and soon became much better; but the cough persisted and grew worse, till, in October, 1886, almost all the rational and physical signs of phthisis were present. The changes were mainly confined to the upper third of the left lung, and, although no disparity in the respiratory movements of the two sides could be detected, there was a slight dulness in the lower portion of the left chest, and respiration was slightly diminished there also, but it was vesicular in quality.

CASE II. The notes of this and the following case were kindly furnished me by Dr. G. M. Garland, whose patients they were. Miss Minnie R., aged twenty-seven, had never had any thoracic trouble before October 1, 1884, when she had a chill, followed, forty-eight hours later, by pain in the right axillary region, and cough, with scanty expectoration.

November 9th, three pints of serum were removed by Dr. Garland. The patient then gained in every way, but the cough persisted. One year later, she died of consumption at her father's home in Germany.

CASE III. A commercial traveller, aged forty-one, had a large pleuritic effusion on the right side in 1881, which subsided without tapping, but convalescence extended over several months. He then remained well till November, 1886, when he "took cold" and had an incessant cough, losing ten pounds in two weeks. There was no expectoration, nor were there any night-sweats. On examination, the right side seemed to be slightly fuller than the left, and to move less with respiration than did the left. There was normal resonance over both fronts; behind, the right subscapular region was slightly dull, and gave a diminished respiratory murmur. On June 4th (three days ago), the patient applied again to Dr. Garland for relief. He had lost thirty-three pounds. The temperature was 99.5°, the pulse 100, and the physical signs were such as to warrant Dr. Garland's statement that "the man evidently has tuberculosis of the right apex."

CASE IV. Reported by Mr. L. S. Stevens, Interne at the Massachusetts General Hospital. Charles M., aged thirty, printer. Tendency to phthisis on the mother's side. With the exception of an attack of

[1] Read before the Massachusetts Medical Society, June 7, 1887, and recommended for publication in the Journal.
[2] Wiener Med. Wochenschrift, No. 40, 1879.
[3] Text-book of Practical Medicine, Vol. I, p. 269.
[4] Boston Medical and Surgical Journal, March 11, 1886.
[5] Pepper's System of Medicine, Vol. III, p. 513.
[6] Pepper's System of Medicine, Vol. III, p. 513.
[7] Pepper's System of Medicine, Vol. III, p. 513.
[8] Text-book of Medicine, p. 244
[9] Pepper's System of Medicine, Vol. III, p. 513.
[10] Pepper, Vol. III, p. 394.
[11] Gazette Hebdomadaire, August 29, 1884.

pleurisy when young, and of fever and ague in 1878, he had been in perfect health until March, 1880, when he was treated in the Massachusetts General Hospital for an acute pleurisy on the right side, with moderate effusion, for which he was tapped. The physical signs at the time were confined to the base of the right chest. Reported several months later, when there was still dulness and feeble respiration at the right base. Re-entered the Hospital February, 1887, for "rheumatism and other disorders," at which time there was obtained a history of progressive loss of flesh, strength, and appetite, dating back three months, with night-sweats, but no cough. Signs in the chest were found throughout the upper third of right side, and at the extreme left apex, and showed, besides catarrh, a slight consolidation, limited to the right side.

CASE V. Mr. F. E. L., of Malden, aged twenty-six, examined April 14, 1887. Family history good, except that one sister died of consumption nine years ago. Three years ago, having been well previously, he had an acute attack of pleurisy, which lasted six weeks. He was tapped twice successfully, and about two quarts of "lightish-green," clear fluid were removed each time. Upon a third aspiration, nothing but a little blood was obtained. From this illness he never fully recovered. There is now, occasionally, a slight diarrhœa. Both lungs present the physical signs of advanced phthisis. He weighs ninety-six and one-half pounds, or twenty-eight and one-half pounds less than in 1884.

CASE VI. J. M., aged sixty, seen March 25, 1887. Always well till he was forty years old. Sixteen years ago, was in bed three weeks "with a cold," but regained his health. Three years ago, he had palpitation and dyspnœa on exertion, with a slight cough. Three pints of clear fluid were withdrawn from the left side. He recovered, and was apparently well till November, 1886, when he "took cold." He has since then lost fifty pounds. The pulse is 96. There are at both summits dulness, bronchial respiration, increased vocal resonance and fremitus, and crackling râles. The right side is the worst; that is, the side opposite the pleurisy.

CASE VII. P. F., aged about twenty, seen June 3, 1887. Entered Massachusetts General Hospital, August 22, 1881, with symptoms of acute pleurisy. He was aspirated, and fifty-six ounces of serum were removed. He was discharged "well," but he is now feeble and emaciated, and presents signs of consolidation at the left apex and the right base, with coarse, crackling râles and bronchial respiration.

CASE VIII. Mr. N. H. M., aged thirty-seven, seen in February, 1887. A sister of his father died of phthisis. Eight years ago, he had pleurisy with effusion, not having been subject to cough previously. Recovery was apparently complete. One year ago (seven years after the pleurisy), had a hacking cough, which has now returned. He has lost flesh and strength. There is dyspepsia, and also a tendency to diarrhœa. At the top of the right lung there is slight dulness, with numerous moist râles in the upper third of both lungs. The expectoration is in part frothy, and in part muco-purulent, with some cheesy-looking particles. Repeated examinations show large numbers of the specific *bacilli tuberculosis*. Dr. Harold Ernst was kind enough to confirm this last observation, after looking at several slides which I took to him.

CASE IX. J. C., coachman, aged forty-one. Lost a mother, brother, and sister of phthisis. He was never ill up to three weeks before entering the Boston City Hospital, in November, 1884. The first symptoms were a slight cough, with very scanty expectoration, and a sharp, "catching" pain in the left side. Upon entrance, the record states that there was flatness in the left front, below the third rib, and over the entire left back. Vocal fremitus was absent, ægophony was present, the heart's apex was in the median line of the body. At the end of three weeks the effusion had cleared up, and the patient was discharged "well." Just one year later, however, having been in apparently good health meanwhile, he entered the Massachusetts General Hospital with nearly identical symptoms, except that it was the right side, and not the left. The diagnosis was pleurisy with effusion, and the case seemed sufficiently typical to be shown to the students as an instance of that affection. An unfavorable prognosis as to the man's future health was expressed, because the pleurisy had now affected both sides. Two weeks after entrance he was discharged "well," to go to the Convalescent Home. Four days before he left, the record gives: "Good resonance and respiration in both fronts. A few friction-murmurs throughout right front. Behind, dull below middle of right scapula, and nearly flat below the angle of the scapula, with feeble respiration and voice-sounds. Coughs but little. Temperature normal."

September 27, 1886 (about two years after the first attack of pleurisy), the patient entered the Massachusetts General Hospital again, with slight changes in the left lung, but marked changes in the right lung, the lower portion of which had probably never expanded after the pleurisy. He was evidently in consumption. In a short time he developed an ischio-rectal abscess, which was opened.

November 11th. He left his bed to walk a short distance, but he fell, fainting, and soon died. No autopsy was allowed.

CASE X. J. S., aged thirty-two, teamster, seen in May, 1887. For fifteen years, he has been subject to chronic pharyngitis. Otherwise, he was well till five years ago, when he began to experience discomfort in the left side, and had a cough, with scanty expectoration. At the end of about four weeks he was aspirated, "two quarts" of "tea-colored" serum being removed. He now complains of a cough, worse at night, with a viscid, whitish expectoration. The temperature was 100° F. At the inner end of the left clavicle there was dulness, with broncho-vesicular respiration and fine, crackling râles. The signs, though of limited extent, seemed distinct.

The reason of this sequence of diseases is given variously by different authorities. Some believe that the pleurisy is, in reality, preceded by minute tubercular foci in the lungs. Dunin thinks that this is always the case. To others, it seems reasonable to suppose that in a certain number of cases the pleuritic effusion, by compressing the lung and hindering its respiratory movements, renders it a favorable nidus for the ubiquitous bacilli. Thirdly, the tubercles may originate in the pleura, and thence extend. The work of Chauffard and Gombault above referred to, would seem to point in this direction; and Delafield [12] reports the case of a seaman, who had a large effusion of clear serum into the right pleural cavity, and in whom tu-

[12] American Journal Medical Sciences, October, 1880.

bercles were found in the right pleura, and only there.

Coming now to the practical lesson, it is briefly this: in all cases of pleurisy with effusion, long after apparent recovery, the patient is in danger of pulmonary tuberculosis, and demands all possible hygienic precautions.

MULTIPLE NEURITIS. CASES.[1]

BY GEORGE B. SHATTUCK, M.D.,
Visiting Physician, Boston City Hospital; Instructor in Clinical Medicine, Harvard Medical School.

ALTHOUGH I find it necessary at the very outset of my remarks this evening, gentlemen, to warn you that I have no new theories to advance, and no really new facts, even, to record, I still shall abstain from going farther in that direction and apologizing for my choice of a subject, and my mode of treating it under these circumstances.

The earliest recognizable and suggestive clinical description of multiple peripheral neuritis, as caused by the use of alcohol, originated in Boston with Dr. James Jackson, in 1822.[2] Subsequently, the earliest detailed report in this country of cases of multiple neuritis, with accurate specifications as to the anatomical situation and the supposed pathological processes involved in the affection — the earliest, at least, of any with which I am acquainted — proceeded from another Boston source, Dr. S. G. Webber (1884),[3] and mainly from cases presenting themselves at the Boston City Hospital. Again, last year, Boston and its City Hospital furnished another contribution to the subject in a paper by Dr. C. F. Folsom, read before the Clinical Section of the Suffolk District Society.[4] It, therefore, seemed to me not amiss that this subject should be brought up in Boston again, and that the records of the City Hospital should contribute their story from the point where it had previously been left. Nor do I feel that, except, possibly, to a small number of nervous specialists, in doing this I am really in any sense thrashing out old straw. From Dr. Jackson's description of a complex of symptoms which attracted his notice in 1822, the subject received no attention whatever until 1852, when it was taken up by Magnus Huss, of Sweden, in a work on chronic alcoholism. It was not until the end of 1883, as Dr. Allen Starr states in last year's excellent Middleton Goldsmith lecture, the best *résumé* of the whole question of multiple neuritis which has as yet appeared, that the third stage in its history, that of pathological discovery, could be considered as terminating. Not until that recent date, had the symptoms of the affection been recognized as constituting a distinct, clinical picture; had previous hypothetical lesions in the spinal cord been abandoned, and the pathology of the disease been described.

Since 1883, an elaboration of the symptoms, as bearing on diagnosis and differential diagnosis, and of the pathological processes, has been going on. But as late as the beginning of this year, Dr. Starr, whose bibliography would indicate a pretty comprehensive research, mentions finding only about one hundred published observations of cases.

Moreover, I am convinced that still the general practitioner is not on the lookout for the complex of symptoms, and, in most cases, does not understand or recognize the disease when presenting itself to his observation, as it unquestionably has in the past, does now, and will in the future, with sufficient frequency to make it really important that he should; especially as there is no reason why he should not care for many of these cases himself if he chooses to, and, in any event, he would, at least, know what was the best disposition to make of them, and what to say with reference to the probable course and prognosis. Within a few days a typical case of alcoholic neuritis has come under my care, in which the diagnosis previously made was, "incipient paralysis."

When Dr. Webber read his paper before the American Neurological Association, in June, 1884, he had found the records of six cases without autopsies, and twelve cases with autopsies. In addition to, and distinct from these, he mentions eighteen cases as having entered the Boston City Hospital in the autumn and winter of 1883–84, in his own service, or that of Dr. J. H. Denny — in the nervous service. Of these, he reported four in detail. In May of this year Dr. Folsom reported three cases — two from the City Hospital service. In addition to these two cases, the records show that fifty-one cases of multiple neuritis have been observed and recognized at the Hospital since the summer of 1884. These have all occurred in the nervous service, or been transferred to it, except one case, which entered and died in one of the other services. Of these cases, twenty-nine have been in males, and twenty-two in females; and, I think, in no case has the patient been under twenty years of age, nearly all being between thirty and fifty years old. I have selected eleven cases for reporting in as brief a manner as possible.

The predominating cause of neuritis among such a class of patients as the City Hospital receives, and, indeed, among all those affected by it, I believe, is alcohol, and the abuse of alcohol produces this group of symptoms more often among women than men, though it so happens that a greater proportion of men have entered the Hospital. Phthisis is beginning to be recognized as a not infrequent cause of the affection, and I have, consequently, included some cases. It is difficult, however, to get such illustrative cases as would be desirable among our patients, and, had I had more time at my disposal, I should have looked for them elsewhere. Phthisis is too apt to be preceded or complicated by an alcoholic history. There are two cases in which the underlying cause could not be ascertained, probably owing to the limitations of our means of information, though, in each case, especial pains were taken to get at all sources of information. I am fully alive to the unavoidable imperfections of hospital records, even when carefully revised and controlled. The only case among those recorded breaking out in a sudden, acute, explosive manner, suggestive of an acute disease with an infectious origin was the Case I, reported by Dr. C. F. Folsom in his paper last May. That case followed positive exposure to cold and wet. He was under my care for some months after the expiration of Dr. Folsom's service. I questioned him carefully many times, and I could not evolve any reasonable source of exposure to infection from his statements in regard to his surroundings. There is no other case among those gone over which lends any countenance to the German theory that cases

[1] Read before the Boston Society for Medical Improvement, November 14, 1887.
[2] New England Journal of Medicine and Surgery, Vol. XI, p. 351.
[3] Archives of Medicine, Vol. XII, p. 33.
[4] Boston Medical and Surgical Journal, Vol. CXI, p. 493.

of multiple neuritis, as such, are due to a specific germ. It may, however, very well be that beri-beri has its specific microbe, and that multiple neuritis is often an accompaniment of beri-beri. Œdema and swelling of joints were neither marked nor frequent features of the cases recorded.

Personally, I have not seen any cases which could be traced to such toxic influences as arsenic, lead, sulphide of carbon (to which rubber-workers are exposed), etc.

Brissaud[5] thinks that acute poisoning by a large amount of arsenic is necessary to produce multiple neuritis with paralysis, that it does not follow chronic poisoning; if such a position were substantiated, it would, of course, simplify the consideration of arsenic as a possible cause in a given case.

I have not gone into questions of differential diagnosis, except incidentally. The distinguishing points between multiple neuritis and acute anterior poliomyelitis, Landry's ascending paralysis, locomotor ataxia — the forms of nervous affections with which it may sometimes, but not often be confounded — have been several times differentiated. I think that the cases I report, if regarded from the combined points of view of history, symptoms, and course, will not be challenged as probably ranging themselves under the category of multiple peripheral neuritis.

I have not dwelt on the question of treatment especially. It is a question whether any given treatment is applicable to any number of cases. In the acute stage, pain must be relieved as it occurs; subsequently, when pain has subsided, electricity, rubbing, and massage are useful in correcting and restoring the paralyzed muscles. Nutritious food, and enough of it nearly always; stimulants almost never; arsenic, salicylic acid, quinine, antipyrine sometimes, are indicated.

In the determination of the electrical reactions of cases in my own service, I wish to acknowledge the attentive assistance of my senior house-officer, Dr. C. F. Carter.

CASE I. *Alcoholic Neuritis; no Phthisis. Two Attacks.* E. M., a male, aged twenty-six years, furniture polisher, single. No specific history. No history of exposure to cold. Uses alcohol "a little." About the first of May, 1883, began to have sharp pains in the feet extending gradually into the calves, knees and thighs. These pains were followed by numbness in the legs and later in the thumbs, loss of power in legs and hands, burning sensation in the feet. After being in bed ten days these symptoms diminished. When admitted to the hospital, July 11, 1883, in Dr. Webber's service, was able to move arms and legs but complained of weakness. Could move feet but little. Paresis of extensors of hand. Sensation good. No noticeable atrophy of arms and legs. No cutaneous reflexes. Patellar reflexes absent. No ankle clonus.

July 13th. No lead line on gums. Complete paralysis of the extensors of the feet. The tibialis anticus and peronei do not react to faradism, extensors of the arm react feebly.

July 31st. Faradism administered every other day. Improving rapidly. Can move feet very well; the muscles react somewhat to faradism.

September 6th. Walks about fairly well, though complaining of some pain in the feet; has difficulty in raising the toes when walking, the feet being thrown forward and the toes striking the ground first.

Discharged October 30th, at which time he was able to walk as well as ever he could, but the electrical reactions were still diminished. Duration in hospital three and one-half months; total duration six months.

Admitted second time to hospital June. 15, 1885, in Dr. C. F. Folsom's service with symptoms similar to those reported. Had continued the use of alcohol since his discharge.

June 17th. Patella tendon reflex absent; increasing loss of power in grasps of hands; could rise from chair only with assistance; when standing would lean far forward and could not maintain equilibrium with the eyes shut.

June 27th. Extreme sensitiveness to pressure over main nerve trunks of both arms and legs, but no pain on motion.

July 22d. Could walk the length of the ward without assistance. Previously mentioned symptoms diminishing. Discharged from the hospital September 14th, much relieved, and has not been heard of again. Duration in the hospital, two months.

CASE II. *Alcoholic Neuritis with subsequent Phthisis.* M. T., aged twenty-seven years, female, single, domestic, with an unimportant family history. Had been a hard drinker at times and for three or four weeks before admission to hospital, September 5, 1885, in Dr. Folsom's service under care of Dr. Morton Prince. She had had difficulty in walking for several days, and numbness in both legs for two weeks. Absence of the patellar reflex, patches of anæsthesia on the inside of the legs. Walked with difficulty on account of staggering, which she attributed to weakness; complained of pains in the calves. Hand grasps of fair strength, no ataxia of the hands; tremor when extended. Reaction of degeneration in muscles of both legs.

General condition improved slowly up to October 18th, when signs of incipient phthisis were noticed and these developed steadily, but the patient was discharged relieved of the neuritis, January 13, 1886. Duration, five and one-half months.

CASE III. *Alcoholic Neuritis.* M. K., aged thirty years, male, employed in a brewery, loading the teams. A large, strong man, who, up to the beginning of present attack, had enjoyed good health. Had been in the habit of drinking a good deal of beer in the early morning before breakfast, after loading the wagons. Entered the hospital, September 17th, (in Dr. Denny's and Dr. Shattuck's service.) Temperature, 99°, pulse, 72; tongue bright red like raw beefsteak; feet slightly swollen and œdematous; pupils equal, reacting to light and accomodation, slight nystagmus on looking to the right; grasps equal but both weak; knee-jerks and plantar reflexes absent; tenderness on pressure over both posterior tibials; tremor of extended hands. It was learned from patient's wife that he had been sick in bed for sixteen days before coming to the hospital, having lost the use of his legs at the beginning of that period; he had had double vision and been "queer," especially in regard to his memory which was greatly impaired. Was unable to walk or stand when brought to the hospital.

September 27th. Had been somewhat noisy at times since previous record; without knowledge of where he was or how long he had been there; remem-

[5] Paralysies Toxiques, Thèse. Paris, 1886.

bered nothing of recent or past occurrences; sometimes unable to pass water without being catheterized; tenderness over posterior tibials about the same; unable to stand on feet.

October 7th. At this date could stand with assistance.

October 14th. Mental condition improving slowly; cried like a child and bewailed himself bitterly if left alone in bed with the screens around the bed. Was able to stand without assistance; tenderness over posterior tibials less pronounced.

October 20th. Walked about the ward with a cane.

October 30th. Walked without a cane, could stand easily with his eyes shut; mental condition clearer; patellar reflex still absent; electrical reaction of degeneration in both legs; grasps by manometer right = 86; left = 80.

November 8th. Was improving mentally and physically rapidly. Could walk well, even vigorously. Was anxious to go home and was discharged much relieved. I communicated with his employers and learned that he, the patient, had exhibited unusual stupidity, and inefficiency in his work for about three months before coming to the hospital; that he had lost strength in his feet and legs and been complaining of them for "a year or more;" that he gave up work the last day of August. Used "to drink hard" but not to intoxication. Duration of symptoms from beginning, twelve to fourteen months; of acute symptoms before entrance, seventeen days; in the hospital seven weeks and a half.

Case IV. *Alcoholic Neuritis.* A. H., aged thirty-three years, male, grocery and liquor business. Had hip disease, left hip, when four years old, but grew up to be a strong, vigorous man; no rheumatism; no venereal. Used to be a butcher, until six years ago when he took up his present occupation. Drank liquor moderately, until two years ago, when he began to drink hard, twenty-five or thirty glasses of all sorts of liquor in the course of the day. Had an attack similar to the present one eighteen months ago, from which he partially recovered, on leaving off alcohol partially. Subsequently began to drink again, kept himself in a boosy state most of the time, but was never too drunk to take care of himself. Up to thirteen weeks before coming to the hospital had been drinking especially hard, but since then has abstained entirely. Entered the hospital, November 1, 1887, as a private patient under Dr. Shattuck. Thirteen weeks before began to notice increased weakness in his legs, the hands also became weak and he had to give up work; a week later limbs became numb and felt asleep, but were acutely sensitive to the touch; for three or four weeks had had sharp, darting, corkscrew pains in the legs, and especially in the feet, but not such as to keep him from sleeping; these pains had been diminishing, and at entrance had assumed the character of occasional dull pain and a numb feeling; no pain in arms, except slight lameness in region of right elbow; eyesight good, but fifteen weeks ago saw double and vision was blurred for a week or two.

November 1st. Appetite good, sleeps pretty well; temperature 98.8°, pulse 104. Tongue clean, protrudes straight; pupils equal, reacting to light and accommodation; grasps weak, with manometer right = 35, left = 32; left leg three inches shorter than the right; weakness of extensors of both feet very marked; toe-drop on left foot; knee-jerks and plantar reflexes absent; tenderness on pressure over the course of all nerves of the arms and legs, but most pronounced over the posterior tibials; sensation diminished in legs and arms, but more marked in some areas, less noticeable on arms than on legs; perverted sensation on legs and feet, a touch on inner side of right foot referred once to left foot and again to right leg, a touch on right leg between knee and ankle referred to top of left foot. Romberg's symptom not tested on account of hip. Reaction of degeneration in legs.

November 10th. Improving slowly under galvanism (weak current), massage, quinine and arsenic. Present duration three and one-half months. Remains in the hospital, and will probably recover perfectly, perhaps in from four to six months.

Case V. *Alcoholic Neuritis.* K. S., aged thirty-eight, female, married, housework. Had "rheumatism" twice, facial erysipelas once. No syphilitic history. Had borne six children and had two miscarriages; youngest child eight years old. Acknowledged the habit of drinking "a little beer." Entered the hospital, November 15, 1886, Dr. Shattuck's service.

Subjective Symptoms. For a month had complained of great weakness, poor appetite, occasional dry cough. Any little unusual event worried or excited her unduly; lately when excited had experienced feeling of oppression about the heart. Sleep pretty good.

Objective Symptoms. Examination of thorax and abdomen negative result, except a good deal of tenderness in lower intercostal spaces on both sides of thorax. Tongue pale and flabby. Tongue, eyelids and hands tremulous. Pupillary reaction to light and accommodation present. Patellar reflex absent; plantar reflexes very active; slight diminution of sensation in legs; tenderness on pressure in right calf and over upper portion of both sciatics. Temperature 99.2°, pulse 104, respiration 24. Urine normal.

November 20th. Appetite and sleep pretty good, but mentally mildly confused. Got out of bed several times at night and wandered about aimlessly. Complaining of pains in the legs, and of a "crushed" feeling about the heart. Pulse small and somewhat accelerated.

November 24th. Complaining of stiffness in the knees, and much tenderness over the nerves of the legs was noticed.

November 27th. Marked tenderness over both sciatics and over posterior tibial nerves on both sides; slight diminution of sensation in areas over both legs, especially on right; loss of power in muscles which move right toes and foot, less on the left side. Knee-jerks still absent. No tenderness in the arms. Had delusions that she went to various places during the day, at night got out of bed and wandered aimlessly about.

December 4th. Quite emotional; no memory, delusions as to time and space.

December 7th. Still great tenderness over nerves in the legs, especially posteriorly; knee-jerks still absent, and plantar reflexes active. Tongue brown, dry and heavily coated; pulse 120; temperature 100°. Thorax and abdomen were examined without finding anything abnormal.

December 10th. Growing weaker; attempts at speech for the most part unintelligible mutterings. Sordes on teeth and lips.

December 12th. Failed rapidly since the last record; nearly comatose, respiration very rapid, swallowing almost nothing; when moved in bed seems to suffer great pain. Death.

Duration in hospital twenty-five days; from beginning about two months. An autopsy could not be obtained; about one and one-half inches of the upper part of the posterior tibial nerve was given Dr. W. W. Gannett for microscopical examination, but he failed to find any signs of neuritis in that piece.

CASE VI. *Alcoholic Neuritis with previous Phthisis.* E. F., aged thirty-one years, female, married, housewife. No history of alcoholic habits. Entered the hospital, general service, July 21, 1885, on account of phthisis, for which she was treated. One sister died of "consumption." She reported having had "rheumatic" pains a year previously, and confessed to drinking beer. Her illness began four months before admission to the hospital with a "cold." Record says: "for past three weeks has noticed that she sees double at times. At first the right eye turned out somewhat and the eyelid drooped a little. . . . Pains all over her, especially in the legs."

August 4th. Pains in the legs less, general condition improved.

August 13th. "Rheumatic" pains now chiefly in the feet.

August 17th. Feet strongly extended and painful. Gastrocnemii painful and spasmodically contracted and twitching.

August 31st. Less pain in feet, but still strongly extended.

September 2d. Splints applied to feet.

September 4th. Patient could move feet freely; slight sensation of pins and needles in the legs. Sat up.

September 16th. Could move the feet freely, but still complained of the pin-and-needle sensation, pains in legs and feet much better. The signs in the lungs had increased in extent, and the patient constantly lost flesh and grew weaker. She was transferred to the "nervous service," in charge of Dr. Prince, and the record of this service says: "For the past four weeks has been unable to walk; complains of numbness in the legs and a feeling of pins and needles in the toes; legs and arms have been very painful on pressure for six weeks. Some tenderness now present over the course of the anterior crural and sciatic nerves; general weakness of the legs; no anæsthesia of the legs; patellar reflex absent.

September 26th. Marked choreic movements of toes reported as coming on at intervals of an hour or two and lasting a few minutes. Right tibialis anticus responded to only the strongest faradic current; electrical excitability with faradic current much diminished in both calves, and the same true of the extensors of the thighs; other muscles were not tested; electrical sensibility of the skin diminished.

The pulmonary signs pursued a progressive course; the patient failed and died November 17th. The autopsy gave: tuberculosis of lungs (chronic), tubercular ulcer of the intestine, fatty infiltration of the liver. Dr. W. W. Gannett, who made the autopsy, removed the ischiatic nerve of the left leg from a little below the middle of the thigh, together with its two primary branches, down nearly to the ankle, hardened portions in osmic acid and examined them microscopically, but no evidence of neuritis or other lesion was discovered.

CASE VII. *Alcoholic Neuritis with Phthisis.* E. W., aged thirty-two years, female, housewife. Was brought to the hospital, October 18th, to Dr. G. H. Lyman's service, in a delirious condition, and unable to give an account of herself. From the husband, the following points were subsequently obtained: One sister died of phthisis; had been married seven years; never pregnant, catamenia very irregular and scanty, but painless. For three or four years, patient had been much troubled with vomiting, and this had increased markedly in the previous six months. For about three years, had been subject to so-called hysterical attacks, lasting a few hours, during which time her mind was much confused. For three weeks, had vomited much less; fell into a state of semi-unconsciousness two weeks before, from which she had not been aroused. Tongue dry, brown, and parched; pulse 132; abundant fine, moist râles over both backs, most marked at right apex, where there was dulness, broncho-vesicular breathing at both apices. Urine and fæces passed involuntarily. Pupils equal, reacting to light; no strabismus. Feet held in position of equino-varus; loss of power in extensors, and muscles of calf of leg flabby, patella tendon reflex absent, tenderness on pressure over nerve trunks of legs and thighs; sensation diminished over both legs. Weakness of extensors of forearms, with tendency to wrist-drop.

October 24th. Pulse 148, respiration 48. Patient's pulse and respiration became more rapid, and she died October 26th.

An autopsy by Dr. Gannett gave, as a pathological diagnosis: Chronic adhesive pleurisy; fatty infiltration; chronic tubercular broncho-pneumonia of liver; tuberculosis of spleen; tubercular ulceration of intestine; infantile uterus, small ovaries. The brain and cord were removed for examination. The peripheral nerves were not examined.

The husband, upon being further questioned, admitted that his wife took stimulants by physicians' orders, but never, to his knowledge, to excess. It was also subsequently learned from the physicians in charge before the patient entered the hospital (Drs. Doe and Breck), that a diagnosis of alcoholism had been made early in the summer; that the patient had been noisy and troublesome at times, but there had been no signs of tuberculosis, and no paralysis as late as the end of September.

CASE VIII. *Alcoholic Neuritis, with Nephritis.* C. S., aged thirty-three years, female, married, a housewife. Decided alcoholic history. Unable to walk for a week before admission to the hospital, September 14, 1885, under Dr. Prince. When seen, complained of loss of power in the legs, and was unable to stand; also of a feeling of numbness in the legs. Had to lift the legs to cross them. Patella tendon reflex absent. Spots of incomplete anæsthesia and analgesia on the legs, which became more extensive and more pronounced a few days later. Pain and tenderness over nerve-trunks and muscles in legs, but not in arms; also over muscles of abdomen, chest, and back. Reaction of degeneration in muscles of legs.

October 20th. Knee-jerk still absent, but tenderness over the nerve-trunks of legs little noticeable.

November 12th. She had improved so far as to be able to walk a short distance, and was discharged, relieved, at her own request. Course, two months.

Case IX. *Alcoholic Neuritis — Nephritis.* F. M., aged forty years, female, widow, dress-maker. Had always good health. Borne four children, and had as many miscarriages. No syphilitic history obtained. Entered the hospital, November 16, 1886, Dr. Shattuck's service.

Subjective Symptoms. For two months, had been losing appetite and strength, smell of cooking causing nausea. Had felt nervous and "fidgetty," and a strong craving for beer. Said that she had lost more flesh than she could "afford to." Gave up work three weeks before admission.

Objective Symptoms. Well developed, rather corpulent. Tongue red and glazed. Decided tremor of tongue, less of the extended hands. No tenderness or impairment of sensation over the arms. Great sensitiveness over the nerve-trunks in the calves, and in front of the thighs. Below the lower third of the thigh, considerable hyperæsthesia of the skin, sensation perverted; and, in lower portions, tactile sensibility impaired in areas. Patellar reflex absent. Unable to move toes of left foot, and those of right but slightly.

Examination of thorax and abdomen. Negative.

Urine. Turbid, alkaline, albumen; sediment, pus, squamous epithelium, numerous hyaline casts. Temperature 97.4°, pulse 124, respiration 24.

November 19th. Grew steadily worse since record. Slept little, delirium of a muttering type, stupor, at times somewhat noisy. Pulse rapid and small, temperature subnormal.

November 22d. Stupor had increased, gradually deepening, interrupted by occasional delirium. Pulse had continued rapid and almost imperceptible at the wrist; respirations were shallow and jerky; temperature always subnormal. Patient swallowed pretty well till just before death, which occurred on this date.

Duration. Six days in the hospital; nine weeks from the time she began to feel sick.

Autopsy by Dr. Gannett. Chronic adhesive pleurisy; injection of kidneys; chronic salpingitis; chronic pelvic peritonitis. Right ischiatic nerve removed, hardened for twenty-four hours in a one per cent. solution of osmic acid, and examined in glycerine. It showed extensive destruction of axis cylinders, and loss of white substance of Schwann.

Case X. *Multiple Neuritis. Alcohol and Phthisis not present; No Syphilitic History, though undoubtedly frequently exposed to infection; Toxic Influences could not be ascertained as present, or as having been active; Epileptic until two years before coming under observation; No Rheumatic History; No History of Exposure to Cold or Fatigue.* T. H., aged forty-five, female, widow, nurse. Entered the hospital, April 6, 1887, Dr. Shattuck's service.

Subjective Symptoms. Three months before, began to have a feeling of numbness in the fingers of the right hand (Dr. J. J. Putnam's "numb fingers"). This extended up the arm, and then up the other arm, and both feet and legs were affected in the same manner. Since five weeks, had not been able to walk without assistance. She said when she stood, it felt as though she were standing on pins and needles. Could not hold anything in her hands without watching it. During the first part of attack, could not see to read; subsequently, as well as usual; at one time, had difficulty in swallowing, but that passed away. Complained of cramps in feet and legs, and of coldness of extremities.

Objective Symptoms. Great tenderness on pressure over all the affected parts, but greater over nerve-trunks in the left leg and arm than in right; sensation in hands and arms, in feet, legs, and thighs much impaired, considerable pressure with the finger not felt, but a slight prick was felt immediately. Patellar reflex entirely absent; both grasps extremely weak; could not stand without assistance, but by leaning on a chair-back walked very slowly moving the feet a few inches at each step. Pupils responded to light and to accomodation. General health was pretty good, temperature and pulse normal.

April 16th. Complaining of pain in the limbs, but less severe. Sitting up daily for a time. Pain relieved by friction with hot olive oil; also had massage and weak galvanic current.

April 26th. Was able to walk a short distance without assistance. Still complained of slight pains and of vague disagreeable sensations in the legs and feet. Blisters were applied over the course of the nerve-trunks.

May 6th. Steady improvement since last record, and had been out walking in the yard a few times. The day before returned from the yard feeling cold, and went to bed. Shortly after had an epileptic convulsion followed by two others.

May 16th. No return of the convulsions, continued to improve, and was transferred to St. Luke's Home, from which she was discharged, June 7th, "much relieved." She has since been heard of as pursuing her usual avocations. Duration before entering the hospital three month; in the hospital, St. Luke's Home, two months; total five months.

Case XI. *Multiple Neuritis. No Cause Ascertained.* E. K., female, forty-six years old, married. Entered hospital, August 27, 1887. Service of Dr. T. M. Rotch, who was succeeded in charge by Dr. A. L. Mason, by whom patient was transferred to Dr. Shattuck. Family history negative. Said she had an attack similar to the present at the age of seventeen years, following exposure to wet and cold, and had had "rheumatism" several times. She thinks the present attack due to exposure in her work as a washerwoman. She seems to be a very respectable person, and repeated careful questioning has failed to elicit an alcoholic history. She is a German; has been ten years in this country; occasionally but not regularly takes a small amount of beer. Present attack began three weeks before entrance, with pains in ankles, knees, and hands, some swelling of ankles, chilly sensations. Appetite poor.

Physical examination. Well developed and nourished. Heart and lungs negative. Tenderness on pressure over nerves of body, limbs, and head. Sensation diminished. Atropy and marked loss of power in the arms and legs. Patellar reflexes absent.

Temperature 100.2°, pulse 124, respiration 30. Urine pale, acid 1011, no albumen.

September 5th. Atrophy more marked. Tenderness over nerves still persists.

September 23th. Legs flexed on thighs constantly; considerable pain on attempting extension. Appetite good.

September 29th. Grasps very weak. Legs cannot be straightened.

October 6th. Flexion more marked; has been sitting up in chair daily since last note.

October 12th. Legs have been straightened by means of ham splints; and massage daily.

October 19th. Can move legs freely, but cannot flex and extend feet. Is just able to stand, but cannot walk.

November 3d. Moves legs a little more freely, but is unable to stand. Reaction of degeneration quite marked in arms and legs.

November 8th. Patient was transferred to Dr. Shattuck's service. Physical examination revealed the following: Marked loss of power in muscles of forearms and hands; grasps extremely weak, (with dynamometer right = 10, left = 13). Both legs weak, and moved with great difficulty. Complete toe-drop on both sides. Plantar and patellar reflexes absent. Some atrophy of muscles of forearms and legs; right calf measures 10 inches in circumference, left 10¾ inches. Sensation much diminished over forearms, hands, legs, and feet, more marked in some areas than in others. Tenderness over peripheral nerves most marked in forearms and legs.

This patient is still in the hospital, and has been there now two months and a half. Her attention was first attracted to her condition three weeks before admission, making the total duration about fourteen weeks. She improved at first somewhat, and then relapsed. She is again improving slowly but steadily under galvanism, massage, citrate of iron and quinine, and generous diet. She will probably recover, though it may take from six months to a year. I have been unable to discover any toxic influence as a cause, and I am inclined to believe her statements with reference to alcohol.

THE ENDOSCOPIC INSTRUMENTS OF JOSEPH LEITER OF VIENNA AND THE PRESENT DEVELOPMENT OF ENDOSCOPY.[1]

BY OTIS K. NEWELL, M.D.
Assistant Demonstrator of Anatomy at the Harvard Medical School.

WHOEVER has had much experience with the endoscope, especially in examination of the bladder, knows with what difficulty a well-illuminated field is maintained, since every deviation of the mirror reflected light, by hand-movement or otherwise, leaves the field in darkness, and the examination must be discontinued until the light is returned. This want of a permanent and easily maintained illumination has undoubtedly been what has kept the practice and good results of endoscopy so much in the background.

One year ago, I had the pleasure of showing before the Suffolk District Society my own endoscopic tubes. Since that time the improvement in methods of illumination has been so great, that from the practical standpoint there is scarcely any comparison. This has all been brought about by the successful application of the electric light to endoscopic illumination through the efforts of Joseph Leiter, the celebrated instrument-maker of Vienna.

About twenty-five years ago Bruck, of Breslau, had produced an electrical illuminating apparatus for examination of the mouth and bladder. The light was from a platinum wire, and in order to overcome the intense heat produced, a coil of pipe for circulation of cold water about the lamp was necessary. This instrument, although it could be used, was never of very practical application.

[1] Read before the Massachusetts Medical Society, Suffolk District, October 29, 1887.

In 1877–78, Dr. Nitze, of Vienna, devised, and had made by Leiter, similar endoscopic instruments, but their complexity and high cost stood in the way of their extended use either for instruction or practical purposes. Urged by Nitze to further continue experimental work with these instruments, Leiter, by his indefatigable energy and admirable devotion to the not very remunerative work, has at last succeeded in perfecting all that seems necessary to the further and rapid development of endoscopy.

In 1883, I had the pleasure of visiting the International Electrical Exhibition at Vienna, and I afterwards learned that it was there that Leiter's attention became directed to the carbon filament light, and the problem of endoscopic illumination seemed then to be solved. Professor Dittel, who had already obtained some good results with the previous instruments in examination of the bladder, gave his strong coöperation to Leiter, and towards the end of 1886 a practical endoscope for this purpose, cystoscope, was produced. In 1887, an electro-reflector for the illumination of plain endoscopic tubes was finished, and as it was to be applied to all tubes for examination of any of the body cavities, Professor Dittel suggested for it the name of "Panelectroscope." The gastroscope was made under the the direction of Professor Miculicz, who has had the most extended experience with this instrument. It corresponds closely to the cystoscope in construction differing only in a double reflection of the picture in its optical arrangement, and in having in addition a double air current through its tubes, one for cooling the lamp and the other to distend the stomach.

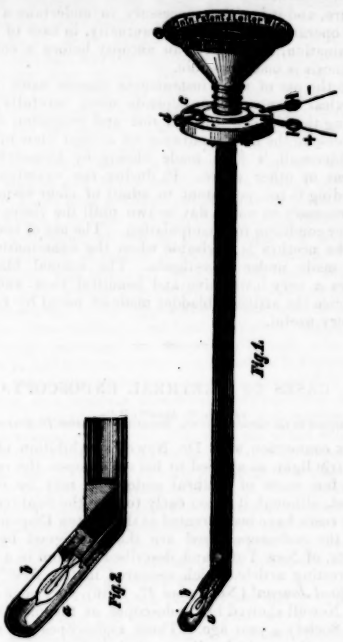
In March of 1887, Professor Dittel showed the instruments before the Imperial Medical Society of Vienna, and the thanks of the society were voted to Mr. Leiter for the self-sacrifice and zeal which he had shown in bringing his efforts to a successful termination.

In detailing the construction of these instruments I can do no better than to quote as much as possible from a description by my friend, Dr. Alexander Brenner, of Vienna, published in the *Centratblatt für Chirurgie*, 1887, No. 25.

THE CYSTOSCOPE.

The body of this catheter-shaped instrument is formed by two thin metallic tubes, one within the other, separated by an intermediate layer of non-conducting material. These two tubes are connected with the battery. The lumen at the outer end of the tubes is closed by an ivory plate into which two cylindrical metal capsules are sunk. The capsules are connected one with the inner, one with the outer tubes for conduction. If now a small incandescent lamp is united with the tubes at their lower end, and the capsules are connected above to the wires from the the battery, the current circulates through the carbon filament, and with a strength of about three to four volts brings it to a white heat. The intensity of the light when run by the battery and fluid as made by Leiter (Fluid = 336 gms. pure chromic acid; 250 gms. sulphuric acid; 2000 gms. water), remains for hours equal. The lamps last about thirty hours, and when burned out can be replaced.

In order to be introduced into the bladder, and for its best protection, the lamp is covered by a metallic capsule, the "lamp-house," which screws down over



it. A thick crystal glass window is placed in the side of the lamp-house, and through it the rays of light stream out into the bladder-cavity. The capsule forms a water-tight joint about the lamp, and excludes possibility of injury to the bladder in case the lamp should break. At the same time it admits of the lights being held under water whereby the heat distributed upon its relatively large surface is rapidly conducted away by the fluid in the bladder, the instrument being always used in a bladder filled with water to which some antiseptic has been added. The water circuit for cooling is thus unnecessary. A circuit-breaker is attached to the outer end of the instrument, the "Pavillion," so that the light may be first started after the instrument is within the bladder. It consists of a metal switch which is connected with the inner tube, and can be moved from an ivory isolating plate on to the ring in connection with the outer tube and battery, and the current thus conducted to the inner tube and lamp. When the switch is pushed back upon the isolating plate the current is broken.

In a bladder distended with from six to eight ounces of fluid, the instrument can be kept for an hour without any appreciable change in the temperature of the surrounding fluid being felt, and without causing any pain to the patient from the instrument becoming warm. The cystoscope is introduced with the circuit open. After introduction the current is closed and the bladder illuminated. Before withdrawing the instrument the circuit is again opened. Figure 6 shows the cystoscope in an artificial bladder.

The battery for these lights must be so arranged



FIG 6.

as to admit of regulating the current strength in order that the lights be not ruined by too high tension. Such a battery is the one made by Leiter in which the elements are raised and lowered on a supporting screw-rod. The plates are lowered into the fluid until the lamp glows with sufficient brilliancy. Any battery with which the current strength can be regulated suffices, and the same may be accomplished by the use of a rheostat.

The optical part of these instruments is similar to the already familiar Nitze instrument, the lenses focusing for a large field with diminished size of object.

My endoscopic tubes as figured in this JOURNAL of November 11, 1886, and above, are now made by Codman & Shurtleff, attachable to the panelectroscope. With them, excepting the interposition of the fenestrum, the object is seen directly, but must be gone over in detail. Through the open tubes *instrumentation within the bladder* is admitted, and small pieces of tumor or other objects can thus be removed for examination. In this connection it is perhaps interesting to quote from my paper of last year Professor Grünfeld's statement that "the introduction of instruments into the (male) urinary bladder under control of the endoscope, as well as their application there, was, for apparent reasons, not to be thought of." The anterior bladder-wall is only to be seen by the Leiter-Dittel cystoscope with mirror reflection.



FIG. 4.

The construction of the panelectroscope is made apparent by the figure. The electric lamp is moved up or down by screw-adjustment so that the rays of light may be reflected from the fixed mirror *a* into the tube in the manner indicated by the lines in the

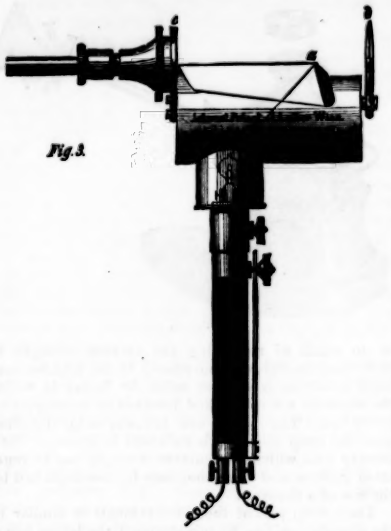


Fig. 3.

figure. Over the top of the mirror a view of the field is obtained, and instruments may be passed down into the tubes. A lens may be inserted at *b* for myopic or hypermetropic individuals.



FIG. 5.

The importance of these instruments lies in the fact that from their simple construction and practicality a closer knowledge of the physiological and pathological conditions of the bladder may be readily obtained.

I have already had the pleasure of twice diagnosing a tumor of the bladder, once for Dr. M. H. Richardson, and again for Dr. C. B. Porter, both of the Massachusetts General Hospital. It is no exaggeration to say that the growth could be seen as plainly as a section under the microscope, and there seems to be now nothing in the way of bringing these hitherto obscure cases to rational and intelligent treatment.

Who is not familiar with that type of intractable bladder disease, where with symptoms of stone, tumor, foreign body, tuberculosis, or other cause of cystitis, all manner of examination still fails to reveal its true nature, and it is either necessary to undertake a serious operative measure, or, eventually, in case of fatal termination, to plead for an autopsy before a correct diagnosis is made possible.

In the use of these instruments, success aside from practical manipulation depends upon carefully preparing the bladder through rest and irrigation so as to remove the only hindrance to a clear view of the bladder-wall, a fluid made cloudy by hæmorrhage, mucus or other cause. If, during the examination, bleeding is too persistent to admit of clear vision, it is necessary to wait a day or two until the viscus is in better condition for manipulation. The use of cocaine in the urethra is advisable when the examination is not made under anæsthesia. The normal bladder offers a very instructive and beautiful view, and for practice the artificial bladder made of metal by Leiter is very useful.

CASES OF URETHRAL ENDOSCOPY.[1]

BY G. W. ALLEN, M.D.,
Surgeon in the Genito-Urinary Department, Boston Dispensary.

IN connection with Dr. Newell's exhibition of the electric light, as applied to his endoscopes, the report of a few cases of urethral endoscopy may be of interest, although it is too early to give the final results. The cases have been treated at the Boston Dispensary, and the endoscopes used are those designed by Dr. Klotz, of New York, and described by him in a very interesting article, which appeared in the *New York Medical Journal* (November 27, 1886), very soon after Dr. Newell showed his endoscopes at the meeting of this Society a year ago. These endoscopes are made of coin-silver, which allows of their being very thin and light, and are less affected by the solutions used in treatment. To the distal end is attached a disc, faced with unpolished gutta-percha, to prevent the reflection of light, and large enough to keep a redundant prepuce out of the way when the endoscope is pushed in deeply.

The light used in these cases is furnished by an Argand gas-burner, intensified by means of a lens, and reflected into the urethra from a head-mirror. The patients have been examined standing. In treatment, nitrate of silver alone has thus far been used, in solutions of one, two, and three per cent., applied by means of a cotton tampon on the end of a wire. I have not yet examined the membranous or prostatic urethra. Of the various appearances described by Dr. Klotz, I have yet seen only congestion of different degrees, with an occasional granular appearance, œdematous swelling of the mucous membrane, rigidity of the urethral walls at the seat of strictures of large calibre, and, in one case, dark spots, which probably showed a higher degree of inflammation about the lacunæ of Morgagni; also, occasionally, dilated capillaries in the bulbous portion.

The results here reported are by no means remarkable; but, considering the short time covered by the treatment, the lack of experience, and an imperfect light, they seem encouraging enough to warrant a continuance of the practice, with such improvements in method as may be developed. The patients have all expressed themselves as feeling better than under any

[1] Read before the Massachusetts Medical Society, Suffolk District, October 29, 1887.

other treatment, even when the improvement has apparently been slow.

Case I. S. R., aged twenty-three, had gonorrhœa five years ago, and has had an almost constant urethral discharge ever since. He has been treated quite steadily for nearly two years with injections, irrigations, sounds, etc. On August 4th, he was examined with the endoscope. The mucous membrane of the urethra was found to be congested, especially in the bulbous portion, where a network of capillary vessels was visible, and in the middle of the spongy portion, where there were granular patches of a deep-red color, and where a marked rigidity of the mucous membrane was noticeable at two or three points. A one per cent. solution of nitrate of silver was applied. This treatment was repeated twice a week until August 30th, with steady diminution of the discharge, and improvement in the appearance of the mucous membrane; but suddenly, without apparent cause, the discharge increased in amount, although thin and watery, and treatment was suspended until September 20th, when the endoscope showed considerable congestion, less, however, than when first examined. After this, the treatment was less frequent and regular, but improvement continued. The strength of the solution applied was increased to two, and later, to three per ent.

October 27th. What little discharge there is, is of the sticky nature of prostatic secretion. Endoscopic examination shows diminished congestion throughout. In the middle portion, the mucous membrane is still quite rigid, although much less so than at first. In place of the granular patches, reddish-brown spots, the size of a large pin-head, are to be seen.

Case II. C. S., aged thirty-three, had gonorrhœa eight years ago, and again three years ago; since this last attack, there has been a constant discharge. Within the last year, he has had two attacks of inflammation at the neck of the bladder, the last one, in June, very severe; and, on August 23d, when the endoscope was first used, the effects were still noticeable in a slightly increased frequency of, and straining after, micturition. The mucous membrane, at the first examination, appeared deeply congested, especially in the bulbous portion, and the anterior half of the penile urethra; in the middle portion, it was swollen, granular, and rigid. It was touched with a one per cent. silver solution, which was subsequently changed, as in the first case, to two, and then to three per cent. This treatment was continued six weeks, about twice a week, with relief of the urinary symptoms, and gradual improvement in the appearance of the mucous membrane.

October 6th. The patient was examined for stricture, and one was detected with a bougie à boule No. 31 (French scale), but it easily admitted a 33. The size of this stricture, on June 7th, was 27, and no instrument larger than 27 had been passed through it since, or at that time.

Improvement continued, although very slow, the meatus being sometimes perfectly dry, and sometimes showing a slight discharge. A relapse of the urinary symptoms was relieved by a deep injection of nitrate of silver, and at present, the mucous membrane, although considerably congested for the space of about two inches in the middle portion, no longer has the livid hue which it had at first, and the rigidity of the urethral walls is very much diminished.

Case III. F. C., aged twenty-eight, first had gonorrhœa ten years ago, has had many fresh attacks and exacerbations since, and has had a constant discharge for more than a year.

August 25th. The endoscope revealed a congested condition, especially of the middle portion of the urethra, which was painted with a one per cent. solution of nitrate of silver, and, five days later, already looked better.

September 3d. The patient reported himself as entirely free from discharge for the first time in a year.

October 22d. He returned with a slight discharge. The condition of the mucous membrane was about the same as when last seen. It was touched with a two per cent. silver solution.

Case IV. E. M., aged nineteen, has had a chronic urethral discharge for nearly a year. The urethra was examined with the endoscope, September 13th, and the mucous membrane found to be quite deeply congested in the middle portion, where it was also rigid and sensitive to the touch. The one per cent. solution was applied, and, at the third visit, the discharge had stopped, the local condition was found improved, and the patient said he was better than he had been for six months. The improvement has not continued uninterrupted. At times, generally after nocturnal emissions or other sexual excitement, there has been a little discharge, and a slightly increased degree of congestion has been noted, but, on the whole, he is doing well. At present, the discharge is almost imperceptible, and the urethra looks much healthier than it did six weeks ago.

Case V. W. C., aged nineteen, had gonorrhœa nine months ago, but has had no discharge for four months. He has a stricture, which has been dilated to 28.

September 15th. He complained only of vague sensations in the penis, and the endoscope showed a moderate degree of congestion at a point just anterior to the bulbous portion. This was touched with the silver solution, and the treatment repeated every four or five days, the endoscope showing a gradual improvement in the local condition. The patient says he is better than at any time since the beginning of his trouble. The mucous membrane now appears almost normal, and he is practically well.

REPORT ON DERMATOLOGY.

BY G. H. TILDEN, M.D.,
Physician to Department for Diseases of the Skin, Boston City Hospital; Instructor in the Boston Polyclinic.

MYCOSIS FONGOIDE.

The evidence collected during the past two years with regard to mycosis fongoide has gone to show [1] that there are no specific microörganisms which bear an etiological relation to the development of its cutaneous lesions, and that the streptococci mentioned by Rindfleisch and Hammer in this connection, are in reality those belonging to septicæmic processes, while those described by Auspitz and his assistants are merely accidental and such as might be found in any so favorable a culture medium as fungous tumors, deprived of epidermis.

[1] Vide Dermatological Report in this Journal of May 12, 1887.

Kühne[2] has recently given the results of his examination of the pathological specimens furnished by a victim of this disease. The case presented the usual clinical picture and fatal termination of mycosis fongoide. Death took place with symptoms of general septicæmia and after partial gangrenous destruction of several of the cutaneous tumors.

Two points of interest were shown by the microscopic examination of sections made from the cutaneous lesions:

(1) The walls of the contained bloodvessels were normal in structure and were not invaded by the new growth, and composed of embryonic cells, as is the case in true sarcoma.

(2) In no section made from pathological cutaneous tissues still covered by epidermis, were to be found any microörganisms whatever.

CUTANEOUS PIGMENT.[3]

If the skin of a white man be transplanted to the body of a negro, the white and transplanted portion of skin becomes as black as the skin of the negro. Black skin, on the other hand, when transplanted to a white man, loses its pigment and becomes white. The cutaneous pigment reaches the epidermis by means of the prolongations of cells which lie at the junction of the rete Malpighi and cutis, and which deliver their pigment granules to the cells of the epidermis. These pigment-carrying cells and their prolongations play an important part also in the nutrition of the epidermis. For, as long as the network formed by the pigment cells is not present or undeveloped, so long do the epithelial cells of transplanted skin present all the signs of poor and insufficient nutrition. The epithelial layer is thin, the nuclei of its cells do not readily absorb artificial coloring matter and in the cells themselves are to be found vacuoles and fat granules. As soon, however, as the pigment cells make their appearance, there ensue numerous karyokinetic[4] figures.

In white skins also, these branched cells exist, but they and more especially the network formed by their prolongations, are difficult of demonstration on account of their deficiency in pigment as compared with the same cells in the skin of the negro.

Kölliker confirms the statements according to which no pigment is formed in the epidermis, but is conveyed to it by means of the immigration of pigmented and wandering cells from the neighboring connective tissue. In human hair; in the "velvet" of the antlers of the stag, when in a state of development; in the feather germs of the hen and in the epidermis of the dromedary and gorilla, this condition of things is most easily detected and demonstrated. The branched and pigment-carrying cells as they insinuate their prolongations between the epidermal cells supply the latter with pigment. The horny cells of the epidermis are usually uncolored on account of the small amount of pigment contained in the epidermal structures. Sometimes, however, they contain a diffused pigment or else granules of pigment; as may be seen in dark hairs, in the nails of the enthropoid apes, and in the horny layer of the skin of the gorilla and of the whale. In the skin of the negro and in the pigmented epidermis of the Caucasian race, v. Kölliker was unable to find branched pigment cells, but he did find often in such cases, numerous, small, rounded and spindle-shaped pigment cells in the outermost layers of the cutis, which pigment cells also recurred among the deepest layers of the epidermal cells.

[2] Ergänzungsheft, No. iii, 1887. Monatshefte f. Prak. Derm.

[3] Karg. Ueber Haut-pigment und Ernährung der Epidermis. Anatomischer Anzeiger, No. 12, 1887.
v. Kolliker. Woher Stammt das Pigment in den Epidermisgebilden. Anatomischer Anzeiger, No. 15, 1887.

[4] Karyokinetic figures are lines and figures which appear in the nuclei of epidermal cells while they are in a process of division and multiplication. Their presence indicates the existence of cell activity and life.

IMPETIGO, FURUNCULOSIS AND SYCOSIS.

At a meeting of the Medical Society of Wiesbaden, Dr. Max Bockhart[5] delivered a lecture upon this subject. With regard to the existence of impetigo as a distinct disease there has been difference of opinion. Erasmus Wilson was the first to give a definite form to the conception of impetigo, by saying that he regarded as impetigo only those pustular eruptions which appeared upon the skin as pustules from the beginning, and which were not developed from pre-existing nodules or vesicles. Hebra, on the other hand, denied the existence of impetigo as a distinct disease (with the exception of impetigo contagiosa, so-called, and impetigo herpetiformis), and was of the opinion that impetiginous pustules were always a secondary development from some preëxisting form of cutaneous inflammatory process.

So-called impetigo simplex is a pustular eruption, which begins as such and the pustules of which it is composed, are formed quickly and undergo but little subsequent change in the way of development. As a rule they are small in size, varying from that of the head of a pin to that of a pea. If punctured and emptied of their contents they quickly refill, remain for days unchanged, and gradually dry to yellowish crusts, which, as a rule, are slow in falling off and which leave behind no scar. Oftentimes these pustules are pierced by a hair and usually the skin in their neighborhood remains unchanged, or is but slightly reddened. It is seldom that itching forms a prominent symptom, being usually absent, or if present but slight in amount. These lesions may develop upon any part of the body and, as a rule, they are scattered over the skin in variable quantities, their most common seat being the extremities and particularly the nates. Sometimes they may be seen upon the mucous membrane of the lips and front of the mouth, in which situation they result in the formation of rounded and superficial erosions. Occasionally the eruption may be almost universal. In cases where the disease attacks hairy portions of the body, such as the bearded parts of the face, the clinical picture presented is not that of impetigo but that of sycosis non-parisitica. The affection may be acute or chronic and the eruption appears in successive crops. Often during the course of the disease there are formed one or several furuncles in the midst of the impetiginous eruption, and even after the disappearance of this eruption it is not uncommon to see furuncles subsequently develop. Besides this form of simple and idiopathic impetigo there occurs a variety of the eruption, called by the writer accidental, and which appears only during the course, and as a complication, of various inflammatory and pruriginous cutaneous diseases, such as eczema, scabies, prurigo, etc. This latter form of eruption, however, is the same in course and appearances as the former.

With regard to the etiology of this disease, the

[5] Monatsheft. f. Prakt. Derm., 1887, No. 10.

writer has examined ten cases of idiopathic impetigo, and twelve of the so-called accidental variety. From each one of these twenty-two cases was taken the purulent contents of unruptured pustules, which was examined both microscopically and by means of culture experiments. The microörganisms thus obtained were propagated from generation to generation in various media. In every one of the specimens of pus thus examined were found the same kind of cocci, namely, small staphylococci of from 0.5μ to 0.8μ diameter. They were found both free and contained in the pus cells, and existed occasionally as monococci, more often as diplococci, and were sometimes arranged in groups. Their number was variable and cultivation showed them to be made up entirely of two varieties, namely staphylococcus pyogenes aureus and albus. These two varieties are to be distinguished one from the other, merely by the different colors of their colonies when produced in pure cultivations. They are the same microörganisms which are found in connection with acute purulent processes in other tissues than those of the skin, such as felon, acute infectious osteomyelitis, ulcerative endocarditis, acute abscesses and phlegmonous inflammation of the subcutaneous connective tissue. In the lesions of impetigo both varieties of cocci were usually found combined in the same pustule, but occasionally only one or the other would be present. In the contents of the unruptured vesicles of so-called impetigo facei contagiosa, the writer has never found either the staphylococcus aureus or albus. Examination of the furuncles, which so often appear during the course of impetigo, showed that they as well as the impetiginous pustules, contained both staphylococcus aureus and albus.

The idea naturally suggests itself that these microorganisms are the cause of both the above forms of cutaneous lesion, and in order to determine this point by other than clinical evidence, Bockhart made two innoculations upon himself with pure cultures mixed, of staphylococcus aureus and albus, in the sixth and tenth generations. The innoculations were made upon the arm, the skin of which had been previously disinfected and slightly scratched with a scalpel. In each instance there ensued in from twelve to fourteen hours after innoculation, the development of numerous, separate and typical pustules of impetigo. The experimenter saw many of these pustules during the process of formation, and is able to confirm the statement of Wilson with regard to them, namely, that they appear as pustules from the beginning and do not materially increase in size after having once been formed. After an existence of eight days most of these pustules had dried up and the crusts had fallen off without leaving behind any scar. Two of them, however, became transformed into painful furuncles, which lasted for two weeks or more. The pus taken from these pustules and furuncles was found by examination and by cultivation experiments to contain both staphylococcus aureus and albus.

In order to determine in what manner these cocci were arranged in the cutaneous tissues and in what way they found an entrance into the skin, the author caused to be excised from his arm a piece of skin upon which were situated three pustules. From microscopical examination of sections made from this piece of skin and from the innoculation and cultivation experiments mentioned above, Bockhart draws the following conclusions: The pustule peculiar to impetigo is caused by the entrance into the epidermal tissues of the staphylococcus pyogenes aureus and albus. The openings through which these microörganisms find entrance, are: (1) The openings of the ducts of the sweat glands, (2) the mouths of the hair follicles and the ducts of the sebaceous glands, and (3) regions of the skin which by reason of insult are deprived of the horny layer of the epidermis. So soon as these pyogenetic cocci have been introduced into the skin they propagate and develop in the wall of the excretory duct of a sweat gland and in the Malpighian layer of cells immediately around its mouth; or in the outer root-sheath of a hair follicle, and in the excretory duct of a sebaceous gland and its neighborhood; or else in any portion of the epidermis which has been deprived of its horny layer. They multiply with great rapidity and set up in the surrounding tissues an acute and essentially purulent inflammation, the activity of which is shown by the rapid formation of pustules. The process, however, does not usually spread beyond the epidermis, and the pustule represents its ordinary culmination. Furuncles, however, may be developed from pustules, which are situated over a hair follicle, or over the duct of a sweat gland by reason of the propagation of these pyogenetic microörganisms into these glandular tubes and sacks, and the consequent excitement of peri-glandular inflammation. The so-called "core" of the boil is modelled by the glandular and follicular sheaths, and consists of masses of cocci and necrosed tissue.

Not only in these two varieties of cutaneous lesions did the author find the staphylococcus aureus and albus constantly present, but also in the lesions of so-called sycosis non-parisitica. Five examples of this disease were examined, and in every case the nodules, pustules, furuncles and abscesses peculiar to it were found to contain the staphylococcus aureus and albus separately or in combination. As a rule, sycosis of the upper lip is accompanied by chronic nasal catarrh and it is suggestive in this connection to note that the mucous discharge from the nose of one patient afflicted with sycosis was found to be swarming with these pyogenetic microörganisms. Clinically, however, sycosis differs from impetigo in two points: (1) That usually the pustules in sycosis are developed from preëxisting nodules, and (2) that in sycosis there are often developed large inflammatory swellings which may contain but little pus. In the opinion of the author these clinical differences are due to the peculiar structure of the regions of skin which are the seat of sycosis.

These pyogenetic microöganisms are among the most ubiquitous of all the pathogenetic bacteria. They have been found in wash water and in the swaddling clothes of infants. Bockhart detected them, both by microscopic examination and by the production of pure cultures upon gelatine, in the scrapings from the skin of three healthy persons out of eight examined, and under the nails of one individual out of six examined with reference to their presence. The experiments of the author seem, so far as they go, to fulfil the four conditions supposed to be necessary in order to establish the claim of any special microörganism to be considered as pathogenetic with regard to any special disease, namely:

(1) Their presence in every case of the disease.

(2) Their presence in sufficient quantity to account for the existing pathological condition.

(3) Their isolation and the production of their pure cultures upon some medium outside of the living organism.

(4) The reproduction of the disease in question by the innoculation of some healthy organism, with the pure cultures thus obtained.

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

NOVEMBER 14, 1887. The President, DR. O. F. WADSWORTH in the chair.

DR. GEORGE B. SHATTUCK read a paper on

MULTIPLE NEURITIS.[1]

DR. S. G. WEBBER said that many of the cases reported to-night seem to be much milder than his own. Before the disease was recognized he had seen a few cases supposed to be temporary disease of the spinal column; and a few supposed to be locomoter ataxia, which may have belonged to this class; but making all possible allowance for unrecognized cases, there was in 1883 to 1884 a very great increase in the number of patients with the symptoms of neuritis, above the number previous to 1883. People drank beer and liquor before, and it is singular that there should be so many cases seen in so short a time with so few seen previously. Possibly there have been changes in the manufacture of beer that may account for it. In one respect the cases of the reader differ from most of those of the speaker. In his own there was a marked contraction and stiffness of the extremities, the legs being flexed on the thighs and the thighs on the abdomen. This contraction was not so marked in the arms. There seems also to have been less tenderness than in Dr. Webber's cases, at least it was not spoken of. In other respects the symptoms were about the same. Numbness was a marked symptom in some of the cases. The tenth case of Dr. Shattuck suggests lead poisoning, but if lead was not found in the urine after treatment with iodide of potassium, it was probably absent.

Inflammation of the muscles without neuritis needs to be diagnosticated from the changes caused by neuritis. Last year Dr. Jackson reported such a case and another case has been reported in the *Zeitschrift für Klinische Medicin*.

DR. C. F. FOLSOM said that he wished to call attention to cases of peripheral neuritis in which there were neither pain nor unusual tenderness on pressure, several of which he had lately seen. He supposed the lesion to be a sub-acute parenchymatous degeneration. If in the legs, the differential diagnosis between neuritis and posterior spinal sclerosis may be exceedingly difficult and sometimes for a while impossible.

He had also seen two cases ending in recovery, which involved the arms, where the conditions closely simulated those of anterior poliomyelitis. He believed that the favorable prognosis of the books, in the case of anterior poliomyelitis of adults is due to errors in diagnosis, multiple neuritis being mistaken for that disease.

[1] See page 523 of the Journal.

He asked whether the contraction mentioned by Dr. Webber might not be due to the posture of extreme flexure to avoid or diminish pain, and now controlled by splints, etc., more than formerly.

DR. J. J. PUTNAM inquired as to the symptoms in the case where autopsy showed nothing.

DR. SHATTUCK answered that in one case a small piece of nerve only, could be got. In this *piece* the result was negative.

Dr. J. J. PUTNAM spoke of the various different forms under which neuritis appears, some of them suggesting the presence of regular system-disease, like those met with in the affections of the spinal cord.

A recent writer upon the pathology of lead paralysis, reasoning in this manner, has suggested that the original cause of the neuritis may perhaps consist in a slight disorder of the ganglionic matter of the spinal cord, and that the reason the nerves become diseased at their peripheral extremity first, is that this part is farthest removed from their nutritive ganglionic centre.

Dr. Putnam spoke of a case formerly in the Massachusetts General Hospital, under the care of Dr. S. L. Abbott, where the symptoms tended unequally to show the presence of multiple neuritis of all four extremities. The case ended fatally. The peripheral nerves, unfortunately, were not examined, but a number of spots of softening were found in the brain, and the lateral columns of the spinal cord were sclerosed, and the bloodvessels greatly thickened.

It is quite probable that these latter changes were chronic, and in a measure independent of the neuritis, but some pathological connection may exist between them. This seems the more probable from the fact that the ganglionic cells were evidently more or less altered.

A large number of patients have been under observation at the out-patient's department of the Massachusetts Hospital, not presenting the atrophy and paralysis and marked sensory disorders seen in Dr. Shattuck's cases, but characterized by either persistent or recurrent numbness and prickling, with slight weakness, but without neural tenderness, having the same location as the severer symptoms.

DR. WEBBER spoke of the pathological changes which he had found in a case of neuritis. Even the specimens which were most extensively changed, contained some fine fibres which seemed unaffected. Perhaps these belonged to the sympathetic system. In other specimens taken nearer the trunk, one or two degenerated fibres were found, the others being apparently healthy or only very slightly changed.

DR. S. L. ABBOT said that the case referred to by Dr. Putnam was exceptional, as the autopsy showed several spots of softening in the brain. It has recently been emphatically stated that in general neuritis the brain is never affected. At the outset the patient complained mostly of pain in the feet which was decidedly lessened during the use of salicylate of soda. As the pain became more general, however, it was not controlled by this remedy. The progressive paralysis with corresponding defect of intelligence led to the impression that there was acute cerebral softening, a condition which was found at the autopsy.

DR. P. C. KNAPP said that, although the pathological processes in peripheral neuritis were not yet thoroughly understood, we must, nevertheless, rec-

ognize at least two processes. One was a true inflammation of the nerve, attended with hyperæmia, swelling, cell-infiltration, and hæmorrhages into the connective tissue; the other was a degenerative atrophy without inflammation, where the nerve-fibre atrophied, and was replaced by connective tissue. The clinical types of multiple neuritis were varied and numerous. We could distinguish at least three distinct classes; those due to toxic agents of a purely chemical nature, such as lead, arsenic, and alcohol; those due to some poison, chemical or organized, following infectious disease, as diphtheria, typhoid, or tuberculosis; and finally a class of apparently idiopathic cases, where a special infectious agent might be the cause of disease. In regard to Brissaud's theory concerning arsenical neuritis, it did not seem to him to be supported by facts, for Dana; in an exhaustive review of the subject, had found that arsenical neuritis might also arise from continuous exposure to small doses, even from poisoning by arsenical wall-paper. Rosenheim is at present disposed to deny that there is a special infectious form of multiple neuritis, and he finds scarcely an autopsy of a case apart from the chemico-toxic forms, where neuritis, has not developed with or after some acute infectious disease or tuberculosis. On the basis of his own investigations he cannot admit that an organized virus is the agent of disease in multiple neuritis. Although autopsies on such cases are rare, nevertheless a certain number of such cases have been reported clinically, as, for example, an interesting series of cases recently reported by Eisenlohr. In regard to the cases of multiple neuritis at the City Hospital, it had seemed to the speaker, judging merely from his own impressions in visiting the hospital since 1883, that the majority of cases had occurred in the last half of each year, being admitted in the late summer and in the fall, and that in the spring and early summer there had been fewer cases. Eisenlohr had found multiple neuritis commoner in certain years, as in 1886–7, and had also seen more cases in the fall and winter. Alcoholic neuritis exhibited two distinct types: the paralytic form with atrophy, and the ataxic form which closely resembled tabes dorsalis. In regard to the paralytic form Buzzard makes the rather remarkable statement that foot-drop is as characteristic of alcohol as wrist-drop is of lead. This is manifestly incorrect, for foot-drop may occur in other forms of neuritis, as the speaker had seen it in lead paralysis and in neuritis after typhoid. There was a symptom-complex, however, from which, without any history of alcoholism, it seemed justifiable to diagnosticate alcohol. That was when, as in Dr. Shattuck's fifth case, there was added to the symptoms of neuritis, a peculiar and characteristic metal condition. The patient became demented, passed urine and fæces in bed, was childish and lachrymose, had various delusions, and while lying helpless in bed would tell a detailed story of going to various remote places, seeing different people, and would give a full account of the conversation held with them. Such a mental condition, when added to neuritis, the speaker believed was almost pathognomonic of the alcoholic form.

Dr. W. N. Bullard desired to draw the attention of the Society to the great similarity between certain forms of multiple neuritis when existing in persons subject to chronic alcoholism, and some forms of general paralysis. In certain cases where the mental weakness was marked, an immediate differential diagnosis was impossible.

Dr. Bullard also asked the reader whether any data had been obtained in regard to the time of the disappearance of the patellar reflex, and the time of its reappearance.

If it can be shown, as seems probable, that in many cases the appearance of this reflex is one of the earliest symptoms preceding many of the more prominent ones, it may be of much value as a means of diagnosticating this disease in the earlier stages.

Dr. T. M. Rotch remarked that during the last year he had had three cases of multiple neuritis under his care, all women. All were extremely hyperæsthetic. In one the mental excitement was extreme, amounting at first to mania and later to imbecility: alcohol appeared to be a cause in this case. In the second case there was no acute mental excitement, but a dull apathetic condition. In the third case there were spasmodic contractions. The cause was not known in the last two cases.

Dr. Myles Standish wished to call attention to a possible relationship between the so-called tobacco amblyopia, or amblyopia *ex abusu* more properly speaking, and alcoholic paralysis. In April, 1886, he reported in the *Boston Medical and Surgical Journal* a case of alcholic peripheric multiple neuritis, which had been preceded three months by amblyopia *ex abusu*; since that time a case that had been under treatment for several weeks at the out-patient department of the Boston City Hospital for amblyopia *ex abusu* was noticed by him to have a peculiar walk, and upon examination it proved to be a case of alcoholic multiple neuritis. He has had still other cases related to him by brother practitioners. The point he wished to make is that amblyopia *ex abusu* may be an early indication of alcoholic peripheral multiple neuritis, and if such is the case the sooner so understood the better.

Dr. Shattuck, in closing the discussion, said with reference to Dr. Webber's criticism upon the number of cases reported as occurring since 1884, that the service to which such cases were apt to be referred was much larger than formerly when Dr. Webber was connected with it, and, moreover, that these cases of multiple neuritis were more generally looked out for and recognized than formerly. There were, undoubtedly, among the fifty-one cases found in the records, several which a strict revision would probably exclude, but there were also others where the diagnosis was not made which ought by such a method to be included. The pathology of the affection is far from being definitely settled.[2] There is an acute degeneration in the course of the peripheral nerve-trunks, but as there is variation in the clinical picture, so there is probably variation in the pathological process. At least, two forms of degeneration of the nerves are accepted. It is not definitely settled whether the cord is involved or not. No constant lesions have been found; an incidental lesion may, of course, be found in the cord or in the brain. The speaker said he knew the cases reported by Dana were not in accord with Brissaud's statement that arsenical poisoning must occur in the severe acute form to produce neuritis; if Brissaud's position were correct it would simplify the ætiology of those cases where the cause

[2] Bernhardt Zeitschrift f. klin. Medicin. Vol. XI, p. 363, 1886. H. Oppenheim, p. 232, 1886.

could not be ascertained, and arsenic in common with other toxic agents might be suspected, as in case No. X of those reported. In this case the urine was examined for arsenic without result, but it might have been too late. To Dr. Bullard's question as to the absence of the patellar reflex, he replied that this symptom was occasionally, but very rarely absent; it was among the early symptoms in its appearance and one of the last to yield, so that some cases were frequently discharged well, or greatly relieved in other respects, whilst the patellar reflex was still absent or much diminished. It was, therefore, difficult to gather useful data in regard to its duration. The speaker was disposed to agree with Dr. Folsom, that contractions and flexions, referred to by Dr. Webber, were characteristic of the more severe forms of the affection, and they had been noted in one or two of the cases reported.

DR. J. B. AYER reported a case of

SEPTICÆMIA FROM PURULENT INFLAMMATION OF THE PORTAL VEIN (SUPPURATIVE PYLEPHLEBITIS).

A lady, seventy-one years of age, has had several bilious attacks (not severe) yearly since the age of eleven, which have not grown worse of late years. He was called to her, October 27th, for bilious vomiting, accompanied by epigastric and general pain, and relieved her by giving a hypodemic injection of morphia. Debility followed the attack, but she had begun to sit up when he again saw her on the morning of November 2d, for severe chills. Eight chills occurred at irregular intervals up to the evening of November 7th. Before the chills the temperature was in the neighborhood of normal, but rose after the chill as high as 105°. During the next four and a half days (up to the 12th) there were no chills, and the temperature became more regular with a higher average. On the 11th it was between 102° and 103°. On the 12th (the last day of her illness) there were three severe chills.

The diagnosis of septicæmia was plain, but its origin was difficult to determine, there being no enlargement of the liver, nor marked enlargement of spleen, no constant epigastic pain, nor *marked* jaundice. Dr. Minot saw her in consultation. The autopsy was made by Dr. Cutler.

DR. E. G. CUTLER, who had made the examination, said there was old inflammatory thickening of the wall of the gall-bladder with adhesions to the front wall of the stomach. In the centre of these adhesions was a perforation, the size of a slate pencil, into the stomach. Several gall-stones were found in the hepatic and common ducts and the mucous membrane was ulcerated in one or two places. In the portal vein near one of these ulcerated ducts was a broken-down thrombus, and scattered throughout the liver were several abcesses varying in size from that of a nickel to a pullet's egg. These abscesses all contained a foul-smelling bloody pus and had ill-defined walls. The hepatic acini were not well marked and the hepatic cells were cloudy.

The spleen was enlarged and very soft (it measured 7 x 4 x 2 ½ inches); on section, the Malpighian bodies were indistinct.

The kidneys weighed each about five ounces and the tubules of the cortex were cloudy and tawney. There was a small cheezy nodule in the upper part of the right kidney.

The heart was moderately filled with a loose dark clot — the muscular walks were friable, and on section proved to be quite fatty. There was slight fatty degeneration of the intima aortæ. The valves were competent, and except two small vegetations on the right anterior aortal segment, were healthy.

The lungs were rather dry, and on close inspection were found to be slightly emphysematous. They were otherwise not abnormal.

The stomach contained a considerable quantity of fluid stained by bile and aside from the perforation spoken of was healthy. The intestines were not abnormal.

The uterus had several very small sub-serous fibroids and a mucous polyp in its interior as large as the last joint of the thumb.

The other organs were not diseased.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT.

STATED meeting, at 19 Boylston Place, October 29, 1887.

Society called to order by the President, DR. JOHN HOMANS, at 8.08 P. M.; seventy-two members present.

The records of the last meeting were read and approved.

The report of the Secretary, giving the names of deceased members, removals out of, into, or within the district, together with the names of newly-elected members of the Society, was given.

The President called for the report of the special committee on the employment of a stenographic reporter.

DR. NICHOLS, for the Committee, said: At the last annual meeting of the Society, the question of employing a reporter, and also of employing a clerical assistant, was referred to the Committee of Supervision, with full powers. They referred it, with full powers, to the Sub-Committee, which presents the following report: The Committee have arranged to have the postal-cards directed for the sum of thirty-five dollars. They have also procured the services of a medical stenographer, at the rate of three dollars an evening, the bills to be presented and paid monthly, and either party to have the privilege of terminating the agreement at any time. The Committee were led to make this arrangement by several facts: First, there was a very general demand on the part of the Society for a stenographic record; second, it was found, upon consultation with the different Secretaries of the Sections, that they were unanimously in favor of such a report of the meetings; and finally, it was found that a gentleman could be obtained possessing medical acquirements, thus answering a serious objection that had been made to the stenographer previously employed. The one objection to the course which the Committee have adopted was the one of expense, and that we felt to be a serious one; but, in guarding against the contingency of a depleted treasury, they have put the whole matter in the hands of the Treasurer, so that he can terminate the agreement at his option.

DR. BUCKINGHAM said: I have the honor of being on that Committee, and there is one thing I wish to say. It is very certain that this Society is going to have extra assessments from time to time. Probably

the extra assessments will be more frequent during the next two or three years than they heretofore have been. This was understood when the Committee took its action, and the Committee understood, too, that there were men in the Society who find it hard to meet their expenses. I speak of this because, when the extra assessment comes, we wish no one to think that the Committee has taken a step in the dark; it has been foreseen.

DR. J. LESLIE FOLEY read a paper on

THE HAIR: ITS DISEASES AND TREATMENT.

DR. O. K. NEWELL demonstrated the use of

LEITER'S PANELECTROSCOPE AND CYSTOSCOPES,[1]

in connection with various kinds of endoscopic tubes, including his own improved patterns of tubes for examination of the bladder. After showing various books and pamphlets, in order to point out the different stages in the development of the endoscope of to-day, he explained the principles on which Leiter's instruments are based, in virtue of which a constant and steady illumination may be maintained.

Members of the Society were then given opportunity to look at the inner surface of an artificial bladder, which had been made for such study.

DR. G. W. ALLEN exhibited a set of

KLOTZ'S ENDOSCOPES,[2]

and reported a series of cases in which they were used.

The President appointed the following Secretaries of Sections: I, M. H. Richardson; II, A. N. Blodgett; III, G. Haven; IV, F. H. Williams; V, G. H. Monks; VI, C. H. Williams; VII, G. F. Jelly; VIII, W. J. Otis.

By vote of the Society, the President appointed the following Committee of five to prepare a list of candidates for officers of the Society: Drs. D. W. Cheever, F. I. Knight, F. W. Draper, E. W. Cushing, A. B. Morong.

Motion for adjournment being in order, the Society adjourned at 9.45 P. M.

Recent Literature.

A Manual of Midwifery. By A. L. GALABIN, M.A., M.D. Small 8vo. pp. 753. 227 illustrations. Philadelphia: P. Blakiston, Son & Co. 1886.

The author has sought to write a book "which should be a manual in point of size, and yet should include all that is likely to be required by students and practitioners": he has succeeded very well. By leaving out the usual description of the female sexual organs and of the development of the embryo, subjects which belong properly to works on anatomy and embryology, space has been saved for the consideration of topics of more strictly obstetrical importance. The book is free from that profuse quotation of authorities, which only embarrasses the student and leaves him in doubt as to what the author himself really believes; and this feature, together with a clear and unassuming style, makes the reading easy and agreeable.

The chapter on Puerperal Fevers is not all that could be desired; but opinions on this subject are in such a state of change, that the perfect portrayal of puerperal pyrexia must not be expected at present.

The chapters on Operative Obstetrics are excellent, although to the American student less valuable, since the descriptions are made with reference to the left lateral position, still the customary one for obstetric operations in Great Britain. For decapitation the author recommends a hooked knife with a serrated edge,— a suggestion worth consideration perhaps, although the combined use of Braun's hook and Ramsbotham, Jr.'s, decapitating knife has proved easy and effectual.

Altogether the book is an excellent one, and well adapted to the use of students.

Hand-Book of Gynecological Operations. By ALBAN H. G. DORAN, F.R.C.S., Surgeon to the Out-Patients, Samaritan Free Hospital for Women and Children, London. Philadelphia: P. Blakiston, Son & Co. 1887.

This hand-book treats of the surgical operations on the female genital organs, leaving out of consideration those minor manipulations and forms of treatment which are usually included in works on gynecology but which are not distinctly surgical. The author's special acquaintance with, and predilection for abdominal surgery as applied to affections of the pelvic viscera, fostered by his connection with the Samaritan Free Hospital, in London, naturally result in a large portion of the work being devoted to this branch of gynecological surgery. In this part of his subject the author is thoroughly at home, and has a great deal to say which is worth reading. This is the most valuable part of the book. The other parts of the work devoted to plastic operations on the vagina and cervix, while fairly well treated, are not especially original nor quite so clearly described as they might be. As a whole, however, it is a very well written and readable book, and one which will well repay study on the part of those general or special surgeons, who are called upon to perform the operations of which the book treats.

To make his work as comprehensive as possible, the author has discussed several subjects which are not usually treated of in similar books, and which lie on the border-line between obstetrics and gynecology. Such for instance are Extra-uterine Pregnancy, Cæsarean Section, and Porro's Operation. Their presence here is, however, quite in keeping with the scope of the book, and distinctly adds to its value.

The illustrations are, as a rule, very good; many of them being original, and drawn from fresh specimens and from preparations in the Royal College of Surgeons. The book is attractively printed and bound.

— It is said that a bill to make vaccination compulsory is soon to be introduced into the Austrian Reichsrath.

— The late Chaplain of Clerkenwell Prison is said to have remarked that at one time that institution contained in separate cells, on charge of drunkenness, a grandmother, a mother, a daughter, the latter with a baby at her breast.

[1] See page 528 of the Journal.
[2] See page 530 of the Journal

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THE VARIATIONS OF THE NORMAL KNEE-JERK.

THE study of the knee-jerk has fairly entered upon the second stage of its existence. In the twelve years that have elapsed since Westphal and Erb first published their discovery of the significance of the knee-jerk, investigators have sought chiefly to explain the mechanism of its origin, and its variations in disease. The second stage in the study, the investigation of its variations in health, may fairly be said to have begun with Jendrássik's [1] discovery that, in health, if a decided muscular effort, such as clenching the hands, was made at the moment the tendon was struck, the muscular response was increased. Jendrássik's discovery was corroborated later by the exhaustive and interesting experiments of Drs. S. Weir Mitchell and Morris J. Lewis,[2] who found that various changes in the activity of the nerve-centres caused corresponding variations in the intensity of the knee-jerk. These experiments have lately been supplemented by a series of extremely valuable and interesting observations made by Dr. W. P. Lombard, and published in the October number of the *American Journal of Psychology* for the present year. Dr. Lombard's observations were made upon himself during a period of six weeks; sixty-six hundred and thirty-nine observations being made at two hundred and thirty-nine different times.

These investigations are more exact than any others that have yet been made, for Dr. Lombard has devised an apparatus which can strike a blow upon the tendon with the same force and upon the same spot each time, while every movement of the foot during the knee-jerk is registered and measured in millimeters. By this apparatus, therefore, a constant force can be given to the blow, and an exact register can be made of the amount of the knee-jerk.

From these investigations, Dr. Lombard has found that the knee-jerk undergoes great variations in health. The average extent of the knee-jerk on rising, when not fully awake, is low; it rises greatly after breakfast, falls off during the forenoon, rises after luncheon, falls off during the afternoon, rises after dinner, and falls again during the evening. There is, moreover, a constant decline during the day, the after-dinner average, for instance, being lower than the after-luncheon average. Fatigue, hunger, sleep, depressing weather, or anything which lowers bodily activity, lowers the average extent of the knee-jerk; rest, a meal, wakefulness, and invigorating weather, which increase bodily activity, increase it. Furthermore, even under circumstances which depress the average, mental excitement may raise it temporarily, while, when in vigorous condition, drowsiness or sleep may depress it. Not only do the various muscular efforts reënforce the knee-jerk, as Drs. Weir Mitchell and Lewis have shown, but various mental stimuli, such as an unusual noise or music, have the same effect. We have not space here to dwell upon all the curious and interesting details of Dr. Lombard's experiments, for which we must refer those interested to the article itself; but these experiments form a most valuable contribution to our knowledge of this important symptom.

[1] Beiträge zur Lehre von den Sehnenreflexen. Deutsches Archiv f. klin. Med., xxxiii, 177, 1883.

[2] Physiological Studies of the Knee-jerk, and of the Reactions of Muscles under Mechanical and other Excitants. Medical News, February 13, 20, 1886.

THE DOCTOR'S WIFE.

IT is useless to suppose for an instant that any description of the doctor's wife can do justice to her, for doctor's wives differ as stars from each other in magnitude: or, a comparison more to the point, quite as widely as their husbands. It is even doubtful if a composite photograph could so blend their many virtues and individualities as to produce a face in which each community could find their own doctor's wife. But yet, as a class, the wives of physicians possess certain common traits, as well as common graces, which are known and appreciated not only by their husbands, but by all those who possess an extended acquaintance with doctors and their families, though these characteristics are modified by the peculiarities of the woman, and the character of the practice to which she is wedded. The wife of a doctor in general practice differs very decidedly from the wife of a specialist. The business of the latter is commonly confined to certain hours: his office door is tended by a trained servant, who does not need appeal to the wife for information as to the doctor's whereabouts; but, in general practice, when the domestic answers the bell, and holds a parley with the anxious individual who wishes to find the doctor, the doctor's wife is very apt to be somewhere within hearing, at the head of the stairs, or behind the office door, and is very likely to take the conversation into her own hands. She, perhaps, knows the caller, and is able to dispose of him according to his merits. If it is near the time of the doctor's return, she may exercise va-

rious transparent devices for keeping him, allowing him, if he is garrulous, to tell her what has driven him to consult the doctor.

In the early days of her married life, she may have gone forth herself to pursue her husband in his route through the village, to hasten his footsteps in some new direction; but it would take something very unusual to start her off in a chase after the doctor in her maturer years. It seems to be a superstition among the more helpless class of patients that the doctor's wife must have some share of the wisdom which they attribute to her husband, and it is by no means rare for her advice to be asked as to the course to be followed when the doctor himself is not available, and she learns, in the course of years, a series of stock recommendations — that a baby in a fit may be safely put into hot water, that a broken leg can be left an hour or two until the doctor comes.

But there are patients who resent her interference and disregard her suggestions. They will neither tell their errand, nor promise to call again. They arouse, sometimes, her pity, sometimes her curiosity, a quality of which the model doctor's wife should possess but a minimum. She finds it difficult sometimes to manifest a proper interest in her husband's business without appearing too curious. She is seldom a gossip, or, if she is a little talkative with her neighbors, one of the staple topics of conversation will be the dreadful uncommunicativeness of her husband, whom, under such circumstances, she will possibly characterize as "close-mouthed."

The doctor's wife is almost sure to hold strong opinions on hygienic subjects, and she talks with an air of learning about sewers and traps and ventilation. If she is the wife of a doctor who practises in the city, she holds strong ideas about medical charities. Perhaps she appreciates too highly the doctor's unpaid efforts. She has been known to express very radical ideas about hospitals, and night-calls she abominates. She does not like the doctor to imperil his life by attendance on diphtheria. In fact, her constant tendency is to over-value his services. She feels that he does not receive all he ought for the exhausting labor he performs. And yet, with the sweet inconsistency which belongs to the sex, she hurries the good man off on certain occasions. She has been known to drop to sleep after the night-bell had summoned him, and, awakened again by the noise he makes on his return, oblivious of the time that has passed, to chide him that he has not yet started.

She takes it to heart when the doctor is discharged from a case and a rival practitioner installed over it, and if the family who have thought it for their interest to make the change are numbered among her friends, a little coolness is an almost inevitable result. Her life-long friends do not always fully appreciate her husband's peculiar virtues, and it is a constant surprise to her that any of them should continue to employ their old practitioner.

The doctor's wife is usually emphatically the domestic manager. The domestic machinery is of necessity left to her control, for the irregular and absorbing nature of the doctor's vocation renders him somewhat unreliable as a purveyor. He is occasionally absent-minded, even when present in the body. If he undertakes to do the marketing, he will forget to order the dinner. On the other hand, the care of the children is apt to pass into the doctor's hands rather more than in other families. He gets up at night to see why John coughs, and what it is that makes Benjamin so restless.

There is one fond delusion which the doctor's wife hides in her own breast, and never reveals, except to her mother, her sisters, and her few intimate friends, and occasionally to her husband, when he is particularly exasperating: she is sure that her husband's success in his profession is, in reality, due to her. His professional attainments are all very well, but, without her directing hand, who can tell where his lack of worldly wisdom would have led him.

ON THE PATHOGENY OF SEA-SICKNESS.

At a recent meeting of the Society of Biology the subject of sea-sickness was discussed by Dupuy, Dastre Brown-Séquard, Laborde, and others.

Dupuy has found sea-sickness much more frequent and more grave in dyspeptics with dilated stomachs. He has of late been in the habit of recommending his patients to take daily, for two days before and three days after embarkation, thirty grains of antipyrine. In every instance he has had occasion to felicitate himself on the success of this treatment.

Dastre has ascertained, by carefully conducted experiments, that the viscera undergo displacement by the heaving and pitching of the vessel; to attenuate as much as possible this displacement, which is the principal factor in sea-sickness, the organism reacts by contraction of the antagonistic muscles, and especially the diaphragm, and thus a particular rhythm is imparted to the respiration.

Brown-Séquard remarked that it had long been known that sea-sickness results from displacement of the abdominal viscera and consequent traction on the nerve plexuses; on this account he had seen recommended to voyagers abdominal belts with a pad designed to make pressure over the stomach.

Morel thought that there was no doubt that displacement of the viscera, and particularly of the cerebrum, was the chief cause of sea-sickness. What, moreover, proves this, is that every thing which minimizes this displacement, horizontal décubitus, walking, suspension in a frame, etc., attenuates the sea-sickness. It is also worthy of note that the vomiting always follows the pitch of the vessel. Another speaker, who followed Morel, doubted the existence of any cerebral displacement, though conceding that of the abdominal viscera.

Laborde felt inclined to give due weight to the

cases which had been named, but thought that due account had not been taken of nervous predisposition as a prominent factor in the pathogeny of this affection. Sea-sickness, in fact, is a vertigo, and many persons are attacked with it as soon as they get aboard of a ship, even before the least oscillation has been experienced. In such persons every kind of treatment is certain to be futile.

AUSTIN FARM AND THE SUFFOLK COUNTY INSANE.

FOR a good many years the city of Boston has been considering the question of what should be done for its insane. The accommodations in the city asylum are substantially what they were forty years ago, so that to-day the city is forced to keep some seven hundred of its insane, away from the reach of their friends and their families, in the State institutions. These are already overcrowded, and the day cannot be far distant when the law requiring Boston to care for its own insane in a city asylum must be enforced.

When the plan arose for transferring the various pauper institutions to Long Island, the suggestion was made that some relief for the present state of affairs in regard to the city's insane might be obtained by converting the buildings at Austin Farm — then the asylum for female paupers — into an asylum for the insane. This plan met with the approval of Dr. Fisher, the Superintendent of the Boston Lunatic Hospital, who, in his last three reports, has urged its acceptance, and has suggested the details requisite for putting it into successful operation. Having made a careful inspection of the buildings, he decides that they are not suited for violent or sick patients unless extensive repairs should be made. With slight changes, however, they would be well adapted for quiet, mild cases. He furthermore objects to limiting the institution to chronic cases, for he believes that it would often be advantageous to send mild acute cases and convalescents there, and that it would be well to send other selected cases there for a few weeks for the benefit of change of scene. His plan contemplates that Austin Farm should be regarded as a branch of the Boston Lunatic Hospital, with a resident assistant physician, but under the same management as the Lunatic Hospital, so that transfers of patients from one institution to the other might be made without any legal formalities, just as patients are now transferred from one ward to another.

This plan involves no extraordinary expense; it is simple yet well-adapted to the situation, and it affords an excellent opportunity for a suitable classification for the insane. It has not, however, met with the approval of the Board of Directors of Public Institutions. They have seen fit to establish at Austin Farm a separate and independent institution for the care of the insane, and have put it in charge of a gentleman, who, although skilful and experienced as a general practitioner, is entirely lacking in the special training and experience requisite to fit him for that position.

In former days the Board of Directors of Public Institutions was made up of gentlemen whose character and high-standing in the community were sufficient assurance that the institutions should be conducted with the highest regard for the welfare of their inmates and for the public good. The Board, as at present constituted, has greatly deteriorated. Various acts of late indicate that its members are "there for the offices," and that they are disposed to use those within their gift for the benefit of their friends. Their course in regard to Austin Farm is indefensible. Without any satisfactory reason they have rejected the carefully-studied plan of an expert in asylum management for a scheme similar to that employed in our State asylums, which has incurred the criticism of all competent alienists, who regard proper classification of the insane in asylums as a crying need. Worse than this, however, they have gone back to the old method of treating the insane as paupers, to be shut up in a county almshouse under the care of some local practitioner. That is a method which enlightened communities have abandoned. Furthermore, their appointment of a superintendent must be condemned. No man is fit for such a position unless he has had the special education and training which render him qualified to speak and act as an expert in mental diseases; lacking such training he is unfit for the position, and his appointment is wrong. The last place where personal favoritism or political influence should prevail is in an insane asylum. The Cook County asylum in Illinois shows the results of political influence in its management, and, if the reports from it be true, its example is not one which Suffolk County would do well to imitate.

MEDICAL NOTES.

— Dr. J. W. White, physical director of the University of Pennsylvania, has offered, in the name of the University, a prize of excellence in general athletics to the principal schools in Philadelphia.

— In the report of the Customs Inspector at Shanghai, China, a case is reported in which a young man had lost an eye by puncture for his father's debt; the physician called in attendance was successful in saving the other eye, but the injured eye was lost. The practice is said to be common in some districts of China, and the attention of the Government has been called to it.—*Medical News.*

— Apropos of the cases of mischief following the puerperal use of corrosive sublimate recently referred to in the JOURNAL, we note that in a paper on the "Washing out of the Puerperal Uterus," Dr. Halliday Croom has collected reports of four fatal cases after mercurial irrigation, and thirteen cases followed by serious symptoms. The strength of the solution, when

used, should not be stronger than 1 in 5,000. In cases of anæmia and renal disease, he says, corrosive sublimate should be avoided altogether.

— A report on the case of the Crown Prince of Germany, covering the time from his visit to England up to November 10th, has been published by Sir Morell Mackenzie simultaneously in the medical journals of England and the *Berliner Klinische Wochenschrift*, by the request of the Crown Prince. After giving the history, of the substance of which our readers have already been informed, he concludes: "In my opinion the œdema is due to limited perichondritis, which, in its turn, has probably been set up by the growths which have been formed from time to time in the larynx. Although the nature of the growth which has lately appeared has not been determined by microscopic examination, it presents every appearance of cancer."

— Mr. Justice Kay, in the case of C. A. Vogeler & Co. *v.* Middleton, recently before one of the English Courts, was asked to restrain the defendants from advertising and selling an oil as St. Joseph's Oil, as being an infringement of the plaintiff's trade-mark, and calculated to deceive the public. The judge after remarking that both the plaintiffs and defendants were vendors of quack medicines which were largely advertised to heal all manner of external injuries, declined to rule that the use of any saint's name in the calendar was an infringement of the plaintiff's trade-mark. But lest either party should use his judgment as an advertisement, he hoped they would add that no one should employ either preparation except under medical advice. We fear that neither party will be likely to conform to the judge's excellent counsel.

— A correspondent of *Science* calls attention to the fact that the discovery, through the experiments of Goldscheider, and of Dr. Donaldson and Prof. G. Stanley Hall in Johns Hopkins University, to prove the existence of a separate system of nerves for temperature, was anticipated by Sir William Hamilton. His observations of psychological phenomena seem to have been nearly as extensive as his philosophic reading. In his edition of Thomas Reid's works (vol. ii. p. 875), after commenting on a singular and exceptional case of paralysis, in which sensations of touch did not seem to be localized, he takes the occasion to hazard the conjecture, based upon observations of his own, that there is a distinct set of nerves for sensation of temperature. His language is:

"I may notice also another problem, the solution of which ought to engage the attention of those who have the means of observation in their power. Is the sensation of heat dependent upon a peculiar set of nerves? This to me seems probable, (1) because certain sentient parts of the body are insensible to this feeling, and (2) because I have met with cases recorded, in which, while sensibility in general was abolished, the sensibility to heat remained apparently undiminished."

BOSTON.

— The Boston Medical Library has received a legacy of $2,000 from a source as yet not publicly announced, and also the sum of $500 from an equally modest benefactor, the latter sum being given as a specific contribution towards the new building for which the society has just acquired land.

NEW YORK.

HOSPITAL SATURDAY AND SUNDAY FUNDS.

— At a meeting of the Hospital Saturday and Sunday Association, held November 20th, the annual statement from the twenty-eight hospitals included in it was presented. This forms the basis for the distribution of the annual hospital collection, and it appears that during the past year the total expenditures of those institutions amounted to $740,722.27. Their total income from invested funds was $142,147.85, leaving $598,575.42 to be raised for their support. Towards this the hospitals received $56,355.51 from the city, and $163,808.09 from paying patients, and the balance of about $300,000 was left dependent upon private contributions, including the annual hospital collection. In the department of work the following showing was made: The number of house or bed patients was 13,920, of whom 10,157, or about 75 per cent., were free patients. In addition, there were treated 119,124 free dispensary patients, who made a total of 365,920 visits. A committee on dispensaries reported in favor of a scheme by which dispensaries connected with hospitals should be entitled to share in the distribution of the general collection fund.

Miscellany.

HYSTERIA AND HYSTERO-EPILEPSY IN SOLDIERS.

The *British Medical Journal* quotes from the *Weekblad van het Nederlandisch Tijdschrift voor Geneeskunde* an account by Dr. Janssen of several cases of hysteria and hystero-epilepsy occurring amongst Dutch soldiers. In one of the latter class of cases occurring in a man of twenty-one, who had come of a highly neurotic family, where there were several attacks during the day characterized by semi-consciousness, extremely rapid respiration, abdominal tenderness, coldness of the extremities, with cold sweating, pulsation of the carotids and other arteries, opisthotonos, and convulsive spasms of the extremities, Dr. Janssen found that the attacks could be arrested by exerting firm and deep pressure with the closed hand on the left iliac region, or by a powerful induced current. The surface of the body was anæsthetic, and if the skin were lightly pricked with a pin, not only did the man not cry out, but no blood appeared. Various anti-epileptic and anti-hysterical remedies were tried without benefit. Different metals were applied to the surface of the forearm, but the only one which produced any effect was silver, which left a red mark. This induced Dr. Janssen to prescribe nitrate of silver for internal use, and this produced a

great improvement in the patient. In another case there was aphonia and aphasia, the lad being able to understand what was said to him, and to read and write, but not to speak — an example of Charcot's hysterical mutism. Treatment produced no effect upon this patient, and he had to be discharged from the army.

DISINFECTION AT THE NEW YORK QUARANTINE.

DR. G. M. STERNBERG, in his presidential address at the late meeting of the American Public Health Association, gave the following account of the ceremony performed at the New York Quarantine, as observed by him when entering that port last August on a vessel from Brazil:

"As another illustration of the evils arising from the present system of supporting quarantine establishments, I will mention a circumstance which occurred upon our arrival at the port of New York. With the deputy health officer, who boarded our ship, came a man with a jug. I was informed by one of the officers of the ship that he was to disinfect the vessel. Being somewhat curious to know the method of disinfection employed, I asked the ship's surgeon to go with me to inspect, when, after a detention of less than one hour, we had started from the quarantine station for our wharf. We found that the man with the jug had lowered a bucket by means of a rope through one of the hatches between decks. Upon pulling up this bucket, I found that it contained two or three pounds of some powder, which had been wet, probably with acid solution, and which gave off an odor of chlorine. No doubt, when first lowered between decks, there had been a considerable evolution of chlorine, but, in the vast space to be disinfected, it was so diluted that at the end of an hour I did not detect the odor of chlorine gas when I lifted the hatch, and it was only by approaching my nose to the bucket that I was able to ascertain what disinfectant had been used. The most curious part of the story is that I was informed that the bucket had been lowered between decks to disinfect a quantity of hides which were stored in the hold. What was the object of this 'disinfection'? Evidently not to disinfect, for no one at the present day would think of maintaining that the hides in the hold had been disinfected by the procedure of the man with the jug.

"The only object that I can conceive of depends upon the fact that there is a fee for disinfecting, which must be paid by the agents of the ship; at least, I was so informed by the officers of the ship."

CASES OF ADDISON'S DISEASE.

AT a recent meeting of the Liverpool Medical Association, as reported in the *Medical Press*, Dr. Davidson showed one patient suffering from this disease, and referred to two other cases recently under his care. The patient exhibited was a sailor, aged twenty-seven, and the disease had existed about three years. A few months ago, when he attempted to resume work, his symptoms became more aggravated, and he was admitted into the Liverpool Royal Infirmary. The patient was deeply bronzed, especially on the face, back of the hands, and other parts exposed to the air; also on the left side, where blisters had been applied eight years ago for an attack of pleurisy. There were also deeply pigmented patches on the lips and mucous membrane of the cheeks. When he was admitted into the Infirmary, three weeks ago, his debility was so great he could hardly stand or walk; he had much abdominal pain, and intense vomiting. He was kept in bed, blisters were applied to the epigastrium, and, when the sickness subsided, twenty grains of iodide of sodium were given daily. The urgent symptoms had now abated, but the bronzing of the face had perceptibly increased since his admission. Dr. Davidson referred to two other cases of Addison's disease recently under his care. In one of the other cases described, the patient, a man aged thirty-three, died from exhaustion three months after the first appearance of the symptoms. He had great muscular weakness, vomiting, and abdominal pain and bronzing. At the post-mortem examination, the supra-renal capsules were seen to be masses of curdy, tubercular matter, and were matted to the surrounding tissues. The left testicle was tubercular, and there was an encysted empyema in the right pleura. The other case was an interesting example of disease of the supra-renals without bronzing of the skin. The patient, a man aged forty-five, was admitted into the Royal Infirmary in July, 1883, in a state of extreme exhaustion and emaciation, like the collapse of cholera. He had caught cold two months before, and since that time had gradually got weaker, and suffered from inability to take food. He had no vomiting and no diarrhœa till just before his admission. He died next day. On post-mortem examination, both supra-renal capsules were found to be much diseased, and adherent to the neighboring tissues. The left was completely destroyed, its structure being replaced by caseous and calcareous matter. The right was enlarged, hard, and fibrous, with small calcareous deposits. No apparent change in the sympathetic nerves.

THE DIETETICS OF MUSTARD AND PEPPER.

DR. P. BURJINSKY, one of the house-physicians (ordinator) to Professor Manassein's clinic, has described, in his St. Petersburg Inaugural Dissertation for 1887, (see *London Medical Record*, November 15, 1887), the results of an experimental inquiry into the influence of two of the commonest condiments — mustard and pepper — on assimilation and metabolism. The author's experiments were conducted on nine quite healthy persons (including himself and a lady), aged from twenty-two to thirty. In one series of the experiments, five in number, the influence of mustard (the best Sarepta sort) on the assimilation and metabolism of nitrogenous constituents of a mixed food was studied. In another group of four, experiments, the same points were elucidated in regard to pepper, the best—so-called "Russian" — sort of the *piper nigrum*. Finally, in a third category, including two experiments, the influence of mustard on the assimilation of fats of cow's milk was inquired into. Each observation in all the three groups was divided into two periods, each of several — from three to seven days' duration — during the first of which the subject experimented upon was receiving no condiment; while during the subsequent one, he or she in-

gested daily either mustard or pepper, all other conditions remaining as equal as possible from the beginning to the end. The results of Dr. Burjinsky's laborious and scrupulously careful experiments may be summed up as follows: 1. When given with meals in small quantities, in the daily amount varying from 8 to 18 grammes of the condiment prepared of 50 grammes of the mustard-flour and 80 grammes of warm water — that is, when taken exactly as in daily life — mustard does not show any influence on the assimilation of nitrogen of mixed diet (consisting of butcher's meat, milk, white and rye bread, potatoes and beef-tea, and tea). 2. Pepper, in the daily quantity from 0.7 to 1.0 gramme, lowers the assimilation, the decrease varying from 0.4 to 2.3 per cent. 3. Mustard, in the daily amount of 4 to 10 grammes, lowers the assimilation of fats, the fall amounting to 2.2 per cent. 4. Neither mustard nor pepper show any influence on the systemic metabolism. 6. Mustard somewhat improves appetite, while pepper diminishes it. 6. Mustard has no influence on the daily quantity of urine, though Dr. Lauder Brunton, in his classical *Text-book of Pharmacology*, 1885, p. 379, regards the condiment as a diuretic. 7. But pepper, as a rule, increased the secretion of urine, the daily surplus varying from 3 to 14.8 per cent. The urine at the same time acquires a strongly pronounced characteristic odor. Probably both the diuresis and odor should be attributed to the presence of an essential oil isomeric with turpentine (Flückiger). 8. Both mustard and pepper very frequently give rise to gastro-intestinal disturbances — colics, diarrhœa with eight to ten stools a day—in persons unaccustomed to the use of the condiments in question.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 19, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	670	228	17.40	19.80	1.05	8.55	1.95
Philadelphia	993,801	372	111	10.80	10.80	2.70	9.60	1.20
Brooklyn	745,108	311	100	21.12	17.60	1.28	14.72	2.24
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	156	54	19.20	9.52	2.56	10.24	.64
Boston	400,000	190	53	13.25	25.97	2.12	3.71	5.30
New Orleans	242,750	119	35	20.64	9.46	.86	8.55	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	94	29	10.66	10.66	4.24	2.12	—
Pittsburgh	210,000	80	29	20.00	20.00	7.50	11.25	—
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	13	4	15.38	15.38	—	7.69	—
Charleston	60,145	—	—	—	—	—	—	—
Portland	40,000	16	7	25.00	6.25	—	6.25	18.75
Worcester	68,383	23	11	25.10	17.50	—	21.75	—
Lowell	64,051	32	6	18.78	12.52	—	6.26	3.13
Cambridge	59,660	25	14	20.00	24.00	—	10.00	12.00
Fall River	56,863	21	11	14.28	—	—	14.28	—
Lynn	45,861	17	6	23.52	—	—	11.76	5.88
Lawrence	38,825	14	5	14.28	14.28	14.28	—	—
Springfield	37,577	13	4	15.38	7.69	—	—	—
New Bedford	33,393	10	4	40.00	—	—	40.00	—
Somerville	29,922	19	8	36.82	21.04	5.26	5.26	10.52
Salem	28,084	12	4	8.33	—	—	8.33	—
Holyoke	27,894	7	2	28.56	28.56	14.28	14.28	—
Chelsea	25,709	9	1	44.44	11.11	—	—	22.22
Taunton	23,674	10	2	30.00	10.00	20.00	10.00	—
Haverhill	21,795	—	—	—	—	—	—	—
Gloucester	21,713	8	3	12.50	—	—	—	—
Brockton	20,783	5	1	—	40.00	—	—	—
Newton	19,759	—	—	—	—	—	—	—
Malden	16,407	7	1	—	14.28	—	—	—
Fitchburg	15,375	7	1	—	—	—	—	—
Waltham	14,609	7	4	28.56	—	—	—	—
Newburyport	13,716	7	0	—	14.28	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,274: under five years of age 733; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 385, acute lung diseases 363, consumption 311, diphtheria and croup, 195, scarlet fever 46, typhoid fever 46, diarrhœal diseases 40, malarial fever 19, measles 11, cerebro-spinal meningitis nine, whooping-cough seven, erysipelas seven, puerperal fever four. From diarrhœal diseases, New York 18, New Orleans eight, Baltimore and Lowell three each, Boston and Brooklyn two each, Pittsburgh, Springfield, Gloucester and Waltham one each. From measles New York six, Baltimore three, Boston and Chelsea one each. From cerebro-spinal meningitis, New York four, Somerville three, Worcester and Lynn one each. From erysipelas, New York three, Philadelphia and New Orleans two each. From whooping-cough, New York two, Brooklyn, Baltimore, Boston, New Orleans and Nashville one each. From puerperal fever, Philadelphia, District of Columbia, Springfield and Chelsea one each.

In 22 cities and towns of Massachusetts with an estimated population of 1,082,707, the total death-rate for the week was 21.90 against 20.85 and 20.42 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending November 5th, deaths reported 3,800: infants under one year of age 902; acute diseases of the respiratory organs (London) 506, scarlet fever 144, diarrhœa 77, measles 75, whooping-cough 60, fever 57, diphtheria 57, small-pox (Sheffield) 21.

The death-rates ranged from 12.7 in Hull to Halifax 31.0; Birmingham 17.5; Bradford 22 5; Derby 25.0: Liverpool 21.7; London 21.5; Manchester 23.1; Newcastle-on-Tyne 26.6; Nottingham 18.2; Sheffield 25.6.

In Edinburgh 16.1; Glasgow 22.4; Dublin 31.0.

The meteorological record for the week ending November 19, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Nov. 19, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...13	29.96	40.0	48.0	32.0	77.0	66.0	74.0	72.0	N.W.	N.W.	W.	7	8	8	F.	C.	C.		
Monday,...14	30.05	42.0	48.0	32.0	77.0	69.0	85.0	77.0	W.	S.	S.	5	6	6	O.	O.	F.		
Tuesday,..15	29.41	48.0	52.0	40.0	100.0	87.0	92.0	93.0	E.	W.	W.	14	10	10	R.	O.	F.	12.	.97
Wednes,...16	29.52	40.0	46.0	34.0	87.0	81.0	83.0	84.0	N.W.	N.W.	W.	18	24	18	O.	F.	C.	2.	.03
Thursday, 17	29.70	45.0	54.0	36.0	76.0	63.0	65.0	68.0	S.W.	S.W.	W.	6	24	14	O.	C.	C.		
Friday, ...18	30.05	41.0	48.0	35.0	65.0	40.0	58.0	54.0	S.W.	W.	S.W.	12	16	10	O.	F.	C.		
Saturday,..19	29.69	45.0	50.0	34.0	75.0	100.0	100.0	92.0	S.	E.	S.	4	24	6	F.	Lt.R.	G.	8.	.14
Mean, the Week.	29.769	43.0	49.0	35.0				77.1										22.	1.14

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 19, 1887, TO NOVEMBER 25, 1887.

PERIN, GLOVER, colonel and assistant surgeon general. Retired from active service November 17, 1887, by operation of law. S. O. 268, A. G. O., November 17, 1887.

SMITH, A. K., lieutenant colonel and surgeon. Assigned to duty as attending surgeon in New York city.

SMITH, J. R., lieutenant colonel and surgeon. Ordered for duty as Medical Director, Department of Dakota.

HORTON, S. M., major and surgeon. Granted six months leave of absence on surgeon's certificate of disability.

ARTHUR, W. H., captain and assistant surgeon. Granted two months leave of absence, with permission to apply for two months extension, to take effect on the arrival at Fort Niagara, N. Y., of assistant surgeon Paul R. Brown.

KEAN, J. R., first lieutenant and assistant surgeon. Granted two months leave of absence, to take effect about December 1. S. O. 269, A. G. O., November 18, 1887.

BROWN, PAUL R., captain and assistant surgeon. Ordered to Fort Niagara, New York.

SKINNER, JOHN O., captain and assistant surgeon. Ordered to Fort Ontario, New York.

RICHARD, CHARLES, captain and assistant surgeon. Ordered to post near Denver, Colorado.

CARTER, E. C., captain and assistant surgeon. Ordered to Willett's Point, New York. S. O. 270, A. G. O., November 19, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 26, 1887.

NASH, F. O., passed assistant surgeon. Detached from duty at the Smithsonian Institute, and ordered to the Washington Navy Yard.

SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.— There will be a meeting of this Section at 19 Boylston Place, on Wednesday evening, December 7th, at 8 o'clock. Dr. Edward Reynolds will report a case of "Stricture of the Rectum Treated by Incision." Drs. E. H. Bradford and M. H. Richardson will read papers on "The Treatment of Inflammations in the Neighborhood of the Cæcum," and will report cases.

G. H. MONKS, M.D., *Secretary*.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The regular meeting will be held at the Medical Library, 19 Boylston Place, on Monday evening, December 5, 1887, at 8 o'clock. Readers: Dr. H. E. Marion, "Pyo-pneumothorax with Autopsy, in a Subject with Extreme Retro-lateral Curvature of the Spine." Dr. A. N. Blodgett, "Twelve Years in the History of the Development of a Case of Moral Imbecility of the Pomeroy Type." At *nine* o'clock balloting for new members.

CHARLES P. STRONG, M.D., *Secretary*.

OBITUARY. FREDERICK HYDE, M.D.

Dr. Frederick Hyde, who died in Cortland, N. Y., October 15, 1887, practised his profession successfully in that neighborhood for more than fifty years. Up to within a few days of his death he performed difficult surgical operations with his accustomed skill and zeal. He was Professor of Surgery in the Syracuse Medical School, in which department he had been busy as a teacher for forty years. Notwithstanding his arduous and continuous duties as a practitioner, Dr. Hyde found time to give to many things which concerned the general public welfare. He was at the time of his death, President of the Cortland Normal School; president of the Cortland Savings Bank; trustee of the Franklin Hatch Library Association, and of the New York State Idiot Asylum. Dr. Hyde will be greatly missed in the community in which he lived and worked.

DEATHS.

Died in Westfield, Mass., November 23, 1887, James Henry Waterman, M.D., M.M.S.S.

In North Abington, Mass., November 25, 1887, Nelson Briggs Tanner, M.D., M.M.S.S., aged seventy years.

BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Minnesota State Medical Society, 1887.

The Variations of the Normal Knee-jerk, and their Relation to the Activity of the Central Nervous System. By Warren Plympton Lombard, M.D. (Reprint.)

Transactions of the American Surgical Association, Volume V. Edited by J. Ewing Mears, M.D., recorder of the Association. Philadelphia. Printed for the Association and for sale by P. Blakiston, Son & Co. 1887.

An Experimental Study of the Effects of Puncture of the Heart in Cases of Chloroform Narcosis. By B. A. Watson, A. M., M.D., Surgeon to Charity, St. Francis, and Christ Hospitals, Jersey City, N. J. Reprint. 1887.

To What Extent can we Classify Vesical Calculi for Operation? With a Report of Cases and Remarks on the Different Methods Employed. By A. Vanderveer, M.D., of Albany, N. Y. (Reprinted from the Transactions of the American Surgical Association, May 11, 1887). Philadelphia: William J. Dornan, Printer. 1887.

A Complete Handbook of Treatment arranged as an Alphabetical Index of Diseases, to facilitate Reference and containing nearly 1000 Formulæ. By William Aitken, M.D. (Edin.), F.R.S., etc. Edited with Notes and Additions by A. D. Rockwell, A.M., M.D., Late Electro Therapeutist to the New York State Womans' Hospital. New York: E. B. Treat. 1887.

On the Animal Alkaloids, the Ptomaines, Leucomaines and Extractives in their Pathological Relations. Being a Short Summary of Recent Researches as to the Origin of some Diseases by or through the Physiological Processes going on during Life. By Sir William Aitken, M.D., F.R.S., Professor of Pathology in the Army Medical School. Philadelphia: P. Blakiston, Son & Co. 1887.

Original Articles.

THE TREATMENT OF PULMONARY PHTHISIS BY THE PNEUMATIC CABINET, WITH A REPORT OF CASES.

BY D. ROLLINS BROWN, M.D, BROOKLYN, N. Y.

The therapeutic history of Pulmonary Phthisis is disheartening. The numerous remedies that have been brought to our notice from time to time, as having an especial preventive or curative influence upon the disease, have so far failed to fulfil the promises made for them, that its continued and dreadful mortality is regarded as a reproach to medical science, and presents a pathetic contrast to the inherent optimism of its subjects. Mindful of a past so full of discouragement, medical men very naturally doubt the efficiency of whatever remedial measures may be proposed. This attitude is praiseworthy, if it implies a willingness to investigate theory, to sift, and honestly adjudicate upon, the evidence furnished by practice. Herein lies the true conservatism: it never degenerates into carelessness or indifference — counterfeit presentments against which the most candid minds must ever be on guard. One of the latest candidates for favor in the management of pulmonary disease, is the instrument known as the Pneumatic Cabinet. Dr. Williams of Brooklyn, to whom we are indebted for the suggestions out of which it grew, has spent much time and labor to perfect its mechanism, and to present its theory and practice to the profession. Whatever its achievement, to him and his co-workers, is due the credit of having furnished means for making exhaustive study of aero-therapeutics. Moreover, the advent of this method has quickened scientific thought, and aroused fresh endeavor to the end that the resources of medicine shall be made more equal to the consumptive's need. The time is marked by the appearance of fresh devices for the relief of these cases, and there is much to encourage a belief that phthisis is at length taken from the list of ailments whose management must be left to the inadequate operation of general principles. Knowledge that an intimate relation exists between the bacillus of tuberculosis, and the disease seated in the lungs, indicates the line along which search for the remedy is likely to be rewarded, and it is with direct regard to this knowledge, that the cabinet has been constructed. While furnishing the mechanical, it proposes to convey to the site of the morbid process, its chemical antidote. That it does the former cannot be denied; as to its ability to do the latter, there is diversity of opinion among physicians, arising, it must be supposed, from a misunderstanding of the physical laws involved in its operation. Perfect comprehension of them must be followed by the conviction that topical application can be made to the lungs, though perfect clinical demonstration of the fact, and of its value, must await the discovery of an antiseptic, and a germicide, that shall fulfil necessary conditions. Doubtless the instinctive hostility of the profession to trade-marks, has been prejudicial to the instrument, but objections based on the ground that it is patented have no special application, while the policy that has governed its introduction and distribution has been such as fully to conserve the interests of both physician and patient.

Already, Pneumatic Differentiation has a considerable literature. Articles upon the subject have been read before representative medical societies, and have been widely circulated through the columns of the medical press. Discussion has been free, and criticism on the whole favorable, though participants, in their desire to avoid the charge of enthusiasm, have been in danger of according the faint praise that damns. Still, medical journals, and medical societies, are not practitioners, and, until the interest of the individual is enlisted, the true place of this system among remedial agents cannot be established. The profession, having authoritatively consented to give its claims serious consideration, should hasten to define its sphere, its range, and its degree of usefulness as soon as may be. A review of papers containing reports of cases treated by this method, shows a most gratifying uniformity in the results obtained by different observers, making due allowance for the personal equation. Essentially the same experience has been common to them all. Whatever the potent factor in the operation of the cabinet may be, it is a constant one, and will invariably accomplish the same work; it is for the physician to determine the pathological conditions to which its application is best adapted.

Practice thus far has verified the original prediction that the greatest advantages would be derived from its employment in the very first stages of disease. In my own experience, the largest measure of success has been met with in cases where the morbid process had just begun. We are not to withold our confidence because the number of recorded cures is not greater, especially in view of the declaration made by several investigators, that they purposed to deny credit whenever questionable, and to reserve the word "recovery," until sufficient time had elapsed after suspension of the treatment, to fully warrant its use. A majority of the cases treated have been improved. Some to a remarkable degree. A few have been cured. Opium derives its value largely from its ability to control distressing symptoms, and tracheotomy maintains its place because occasionally successful. This treatment, so far from being incompatible with the plan generally pursued, is distinctly adjuvant, and the rapid and decided gain in weight which has followed its systematic employment may be partially attributed to the attendant increase in functional activity through its influence upon the circulation.[1] An immediate gain in digestive and assimilative power has been noticed in every case of beginning phthisis that has come under my care. There is little difficulty in crowding nourishment upon these patients. They are directed to take food, usually milk, or bovinine, every two hours between meals until bed-time, and, if they wake in the night, to drink the glass of milk placed by the bed-side when they retire — and I rarely write for pepsin. This over-feeding has been found practicable in some third-stage cases, and, that too, when digestion has been habitually poor, according to the history.

In favorable cases I am accustomed to look for improvement within a dozen treatments covering a period of three weeks, and relief of symptoms sometimes follows the first inhalation. Considering the pronounced effects, local and systemic, of which the cabinet is capable, contra-indications are few, and so far as demonstrated, do not regard the pathology that belongs to phthisis. With the exercise of ordinary care in diag-

[1] The Physiological Action of the Differential Process on the Circulation, by E. Tiegel, M.D. Journal of the American Medical Association, November 28, 1885.

nosis, its application can do no harm. This negative quality is not to be despised; measures which fail to do good, often do ill. They know it, whose stomachs are unfitted for the performance of their simplest offices by the orthodox exhibition of cod-liver oil; they know it too, whose fruitless pursuit of health from west to south, has left them, with scarcely vitality enough to permit them to meet the inevitable amid the comforts of home. Not that I disparage climatic change, it is often of the greatest value, but it should not be counselled unless very clearly indicated; if not advantageous, it is pernicious. The cases most likely to profit by a change of climate are those most likely to respond to treatment in the cabinet. It has seemed to me also, that a brief experience of this treatment, immediately preceding migration, is calculated to put patients in the best possible condition to appropriate the benefit sought. For a majority of consumptives, change of climate is out of the question, to them particularly, the cabinet holds out a substantial hope. In view of the reasonableness of the method, its accessibility, its accomplishment, we are warranted in giving it tentative recognition; a trial involves no risk in itself, and will not conflict with the use of other generally approved agents.

It is desirable that the instrument be kept in legitimate hands. Having received scientific endorsement, it must have professional support, otherwise we shall suffer the humiliation of having enlarged an unusual opportunity for the quack to enrich himself at the expense of everybody but the manufacturer. I will only suggest the probable usefulness of the method in preventive medicine, in view of the fact that phthisis usually begins in the unexpanding apices of the lungs. If these regions are aerated and rendered aseptic, important conditions favorable to the lodgment of tubercle will have been removed.

In February, 1886, my associate, Dr. Sidney Fox, and myself, in a paper read before the Kings County Medical Society, reported "Sixty-nine cases of lung disease treated with the Pneumatic Cabinet." [2] Of these thirty-four were cases of phthisis. Among those reported by us as "improved" was the case of Mr. C., to the clinical notes [3] of which I desire to revert briefly. This man had a cavity in the right lung in a state of activity. His weight had dropped from one hundred and forty to one hundred and fifteen pounds during his illness. He was very weak, with troublesome cough, profuse expectoration, and night-sweats. Pulse, 120; temperature, 102° in the morning. He was discharged April 1, 1886, having had seventy-two treatments. His weight was then one hundred and thirty-two pounds. There were no subjective symptoms, and physical exploration detected no evidence of active disease in the lungs. With a view of ascertaining the permanency of this result I requested a statement of his condition from his friends in March of the current year. At that time his mother wrote that he was in good health. His weight was one hundred and forty-four pounds.

The present condition of another case of phthisis among those reported "improved" is equally gratifying. Here, also, the disease had gone on to the third stage. This patient, a lady resident in Brooklyn, suspended treatment nearly two years ago. Since then she has remained well, given birth to a healthy child, performed all the offices of maternity, and assumed matronly proportions. Of the subsequent history of the other cases in this class I have no accurate knowledge. The case of fibroid phthisis reported, afterwards developed tuberculosis, and, by the advice of the attending physician, moved out of the city.

The following table includes all the cases of phthisis that have come under our care for special treatment from February, 1886, to August, 1887: —

Whole number of cases	38
Treatment followed by no improvement	11
Treatment followed by slight or temporary improvement	7
Treatment followed by improvement	13
Treatment followed by remarkable improvement	7
Deaths	6

It is, of course, impossible to express in a general statement, the impression gained by almost daily observation of cases under treatment, but the limits of a paper preclude the full reproduction of clinical notes, and I can only define broadly the meaning which the terms used are intended to convey: By "slight or temporary" improvement is meant the amelioration of more prominent symptoms, as cough, sense of thoracic oppression, night-sweats; under "improvement" are included cases in which the treatment has been followed also by a gain in weight, partial restoration of appetite and strength, in women frequently the return of the menstrual discharge; on auscultation, a diminution in the number, and occasionally the disappearance of râles for varying periods; "remarkable improvement" describes cases in which, in addition, there has been a decided gain in weight, and, in some instances, entire cessation of symptoms, with objective evidence of quiescence of the disease for considerable periods. Of the seven cases under the head of "remarkable improvement," two were diagnosticated as fibroid phthisis, three as phthisis in the first stage (beginning consolidation), two as phthisis in the third stage (*a*, softening, *b*, cavernous.) In one of these last cases there was complete abatement of symptoms, and a gain of thirteen pounds in weight, after thirty-three treatments, occupying three months. The other will be found reported in detail. In a succeeding paper I hope to present the further history of these seven cases. That some knowledge may be had of the data upon which judgment of the results of treatment has been based, the clinical history of two cases is appended.

Miss ———, age thirty. Family history, negative. Personal history: in good health up to the fall of 1883; dates illness from a cold contracted at that time; cough at first dry—no expectoration. In the spring of 1884 had four distinct hæmorrhages, each following a violent paroxysm of coughing; cough afterwards became looser; soon began to notice failure in appetite and strength. These symptoms increased during the summer. In the winter of 1884-1885 she went to Colorado; remained there nine months without much benefit. Soon after her return the cough became severe, and attended with considerable expectoration; she suffered from wandering pains in the chest, hoarseness, night-sweats, and increasing debility. The case came under my care in May, 1886. She was then extremely anæmic; had lost seventeen pounds in weight; had little appetite; feeble digestion; complained of thoracic oppression—"felt as though she were breathing through a pin-

[2] Proceedings of the Medical Society of the County of Kings, February and March 1886. New York Medical Journal, June 19 and 26, 1886.

[3] Page 17 of pamphlet cited.

hole"; was short of breath; unable to lie on the right side; cough troublesome; sputa greenish in color; night-sweats; constipation; menses regular. Physical examination: chest flattened on the right side; marked dulness on the right side from apex to third intercostal space, and from the sternum to within two inches of the axillary line; dulness in corresponding region behind; high-pitched note over left upper thorax. Tubular breathing over right upper chest, with increased voice transmission; moist râles throughout the chest on both sides, distinctly audible for a distance of several feet; masked crackling over right upper chest; at left apex expiratory sound is harsh and prolonged. Chest expansion one inch and a half. Temperature 100.75° (10 A.M.); pulse 108; weight 95½ pounds. Sputa contain *bacilli* in considerable number. [3 on a scale in which 5 represents the maximum.]

Treatment was begun on May 30, 1886, and administered daily until June 5th. The relief to symptoms was considerable: Cough decreased; "pin-hole" respiration disappeared; night-sweats ceased. During a visit to New Jersey the patient had a sharp hæmorrhage, and spat up a large quantity of "matter." Returned, June 11th, feeling very weak. Treatment was resumed and continued daily up to July 1st, when she started for the White Mountains. She expressed herself as feeling much better; rested well at night; was able to lie on either side; coughed and raised much less; had no night-sweats; ate pretty well, and was stronger. Internal treatment was confined to the exhibition of a bitter tonic, and the occasional use of pepsin. Trial was made of the hypophosphites of lime and soda, and of different preparations of iron, but they were not well borne. The diet was made as full as possible, milk and bovinine being taken between meals. Physical examination, June 30th: moist râles have entirely disappeared in the left lung, and are very much lessened in the right; no appreciable change in other signs, but there is now evidence of a cavity on the right side. Expansion two inches. With one exception the recorded morning temperature dip not go above 99.5° during June. Patient returned from the mountains in September. During her absence took tonic doses of arsenious acid three times a day. Came back with former symptoms renewed. Cough keeps her awake at night; chest very sore; appetite poor. In August passed a menstural period for the first time. Temperature 100.4°; pulse 135; weight 93 pounds. Resumption of treatment was promptly followed by improvement, though during September frequent use of the zinc and belladonna pill was made to control exhausting night-sweats. Weight, September 30th, 91¾ pounds. October 6th the case was seen by Dr. A. L. Loomis, of New York, who reported that he found a cavity in the right lung, and first stage phthisis in the left. He advised rest, a full diet, and persistence in the cabinet treatment. During the remainder of October treatments were given every other day. The recorded morning temperature did not go above 99° during the month, and was often below the normal point. She made no gain in weight, but experienced much relief of symptoms. During November the advance was marked; cough almost entirely disappeared; there was little expectoration, the sputa being white instead of a greenish yellow; rested well at night; menses returned (after an absence of three months); prevailing morning temperature, 98.5°; weight, November 30th, 96¼ pounds; *bacilli* absent. She began to take gradually increasing doses of pure cod-liver oil in October, and by the end of November was having half an ounce of it, an hour after each meal, and some form of nourishment every two hours, without digestive disturbance. This improved condition has lasted, with few interruptions, up to the present time (September). Regular treatment was suspended in March. In February no signs of progressive disease were discovered on physical examination. Signs denoting a cavity excluded, the abnormal respiratory sounds were limited to harsh breathing over both upper thoraces, with a crackle on the right side. Good reports have been received from the patient and friends during the summer. She now weighs one hundred pounds, coughs very little, and raises only in the morning. This case is classed under "remarkable improvement."

Mr. S., age 19 years. Dispensary case. A brother and a sister died of consumption; the father has lung disease: mother in good health; beyond this nothing known of family history. Personal history: first noticed a hard cough in September, 1886, which has persisted up to the present time (November 24, 1886), no expectoration. Early in November had a hæmorrhage, following violent exercise; then coughed up "three or four cupfuls of blood and froth"; has had frequent hæmorrhages since, all crimson in color; for some years has had stitch-pains in the left side. In October, first noticed failure in appetite, and loss of flesh and strength. In September, October and November, had repeated attacks of diarrhœa, lately has had profuse night-sweats two or three times a week. Physical examination: a tall youth, sallow, and narrow-chested. On percussion a high-pitched note is heard over the top of both lungs. In these situations the breathing is harsh, with a friction sound at the summit of the left chest. Weight, 129 pounds; pulse 130; temperature 101.75° (9 A.M.) The case was seen for the first time November 24, 1886. ***No treatment was given.*** The next day alarming hæmorrhages set in, which were not fully controlled, with the usual remedies, until December 5th. He came to the office for treatment December 9th, was then extremely pale, and seemed very weak. Temperature 97°, weight 122½ pounds. Improvement dated from the first inhalation, and was remarkable in rapidity, and degree. On the 27th of February, 1887, with daily sittings, his weight was 134½ pounds; he had had no night-sweats for two months; appetite was excellent; cough had entirely disappeared. His mother sent word that he seemed perfectly well, and suggested that he might be allowed to go to work again. Good resonance was found on both sides on percussion, and though the breathing was still somewhat harsh, no friction sound could be detected anywhere. Expansion four inches. Temperature 99°. Early in March he obtained light employment and continued the treatment bi-weekly. On the morning of March 16th, he coughed up some dark-colored blood mixed with mucus. On the 19th, had a slight hæmorrhage, and complained of chilly sensations. Hæmorrhages occurred also on the 20th and 21st, and on the 22d he had a night-sweat. The cough had returned. Daily treatments were advised. Weight was now 126½ pounds. Unfavorable symptoms continued until the 8th of April, when he again began to gain. On the 27th his

weight was 131 pounds; the cough was about gone, and he expressed himself as feeling "first-rate." From April 27th to May 6th no treatments were given. On May 5th the hæmorrhage recurred, and the cough and expectoration began to increase. During the week following he frequently spat "chunks of blood," and the sputa were not free from blood until the 16th. On the 26th, his weight was 126¾ pounds. A brief period of improvement succeeded, but during the summer he steadily lost ground. He now complains a good deal of stitch-pains in the left side; cough is quite troublesome; appetite variable; looks pale; feels weak; occasionally has a night-sweat. A considerable hæmorrhage occurred on the 20th of September. Physical examinations made in July and August, showed increasing disease in the left lung, which now involves the entire upper lobe. The respiratory murmurs over the lower lobe is very feeble. Weight, September 20th, 123 pounds; temperature 99.4°; pulse 108. Expansion two inches. This case is classed under "temporary improvement".

Medicaments for inhalation have been varied to suit individual cases, but iodine has been most generally employed.

A CASE OF POISONING WITH THE OIL OF GAULTHERIA.[1]

BY J. G. PINKHAM, M.D., OF LYNN.

THE subject of this report was a young woman who had been married three weeks, and was three months advanced in pregnancy. On March 1st, at 9 P. M., she took, by advice of a friend, one ounce of the oil of gaultheria, for the purpose, as was supposed, of procuring an abortion. Soon after taking the drug, she complained of a bad feeling in the head and of other unpleasant symptoms. At 11 P. M., a neighboring physician was called in. At this time, the prominent symptoms were profuse perspiration, pain in the abdomen, frequent and painful micturition, and purging. Mustard was given as an emetic, with no result, except the vomiting of a little white froth. Towards morning a convulsion occurred, after which the feet remained fixed in a state of flexion. At 7 A. M., March 2d, Dr. C. A. Lovejoy, to whom I am indebted for the clinical history of the case, was summoned to take charge of it. He found the patient tossing about in the bed, and apparently suffering from severe pain. She was totally insensible to light, and nearly so to sounds. The body was bathed in perspiration, face flushed, respiration rapid, pulse extremely feeble. Shortly after the Doctor's arrival, a large amount of urine was passed involuntarily. The treatment was stimulating. At 10 A. M., the symptoms remained the same, except that the pulse was stronger. A short time before noon, she again passed a large quantity of urine in bed. Death occurred, without return of consciousness, at 12 M., fifteen hours after the ingestion of the poison.

Autopsy at 10 A. M., March 3d, twenty-two hours after death, Drs. Lovejoy and Sheldon assisting. There was no rigor mortis, except a slight degree of it in the jaw and left knee. The feet were drawn into the position of talipes equinus. The fingers and toes were flexed, and the thumbs drawn into the palms of the hands; when these members were straightened, they resumed their flexed position at once after the extending force was removed. Corneæ hazy. Pupils half dilated. Buccal mucosa pale. The edge of the tongue appeared to have been bitten. Abdomen flat; recti relaxed. Breasts full; areolæ distinct; on pressure, a fluid like colostrum exuded. On section of the body, the blood was found to be very black, and, with the exception of a few small clots in the large veins, to be everywhere fluid. The liver, spleen, and the posterior portions of the lungs were engorged with black blood.

Externally, and on section, the kidneys appeared to be deeply congested, but otherwise healthy. The pericardial sac contained about two drachms of fluid. Heart healthy. The uterus was dark posteriorly near the fundus; it was enlarged to about the size attained at the end of the third month of gestation. The right ovary contained a corpus luteum of pregnancy. The mucous membrane of the stomach, and that of the duodenum for a distance of four inches from the pylorus, were intensely congested; below this point in the small intestines, the evidences of irritation gradually diminished. The contents of the stomach and intestines had a strong odor of checkerberry. The brain and all other organs examined were normal in structure.

To sum up the facts in this case, we have, as the result of taking one ounce of the oil of checkerberry, distress in the head, profuse perspiration, pain in the stomach and bowels, purging, diuresis, with frequent painful, and at the last, involuntary micturition, abolition of sight and hearing, general convulsions, tonic spasms of the flexors of hands and feet, great depression of the heart's action, rapid respiration, and death in fifteen hours. *Post-mortem*, we find persistent spasm of hands and feet, great irritation of the gastro-intesinal mucosa, a black, fluid state of the blood, and congested kidneys.

The oil of checkerberry (gaultheria procumbens) is said to be composed of methyl-salicylate nine parts, and a hydro-carbon called gaultherilene, one part. I am not aware that these substances have been separately studied, but it is highly probable that the active properties of the drug are due to the methyl-salicylate, which is one of the series of methylic ethers, and would seem entitled, from this fact alone, to be ranked among the poisons. It may be obtained artificially by distilling a mixture of two parts of crystallized salicylic acid, two parts of anhydrous wood spirit, and one part of oil of vitriol. When obtained in this way, it has the characteristic appearance and odor of the oil of checkerberry procured by distillation from the plant — a fact which would add still further to the probability that, in considering these cases of poisoning, methyl-salicylate is the substance with which we have to deal. Poisoning with the oil of checkerberry appears to have been rare. Beck[2] speaks of a fatal case that occurred in New York in 1832. Toxic effects have been known to follow large doses of an infusion prepared from the leaves of the plant. But, in the limited research which I have been able to make, I have found detailed reports of only three cases of poisoning with the oil.

The first case was reported by Dr. Gallaher[3]: A boy, aged nine, took a tablespoonful of the drug just

[1] Read before the Massachusetts Medico-Legal Society, February 2, 1887.

[2] Medical Jurisprudence, Vol. II, p. 942

[3] Philadelphia Medical Examiner, 1852, n. s. Vol. VIII, p. 347, et seq.

before supper. Symptoms: early and persistent vomiting, purging, pain and tenderness in epigastric and hypochondriac regions, a hot skin, rapid pulse (125), slow, laborious, and loud respiration, inordinate appetite for food, thirst, increased pulsation of carotids, great dulness of hearing, a parched and swollen mouth. There was no delirium or stupor. The eyes were red, but the pupils remained natural. Recovery took place after treatment with small doses of calomel, blood-letting, and blisters over stomach and bowels.

The next case was reported by Dr. Allan McLane Hamilton.[4] The patient was an adult female, and the amount taken was one-half ounce. The symptoms, as described by the doctor, who saw her an hour after she had taken the poison, were dizziness, drowsiness, marked delirium, pain in the head, noises in the ears, like the buzzing of bees, disturbed vision, hallucinations, left hemiparesis, a hot head, strong pulsation of temporal arteries and veins, contracted, then dilated pupils, cold extremities, rapid and labored respiration, restlessness, salivation. There were no marked gastric or intestinal symptoms. The patient had a strong inclination to sleep, and could only be kept awake by slapping, the use of galvanism, etc. The case ended in recovery.

The third case was reported by Dr. Jewett.[5] The patient was an intemperate man, aged fifty-five, who took by mistake, at 12 M., one-half ounce, as nearly as could be ascertained, of the oil. The symptoms, which began very soon, were severe pain in the stomach and bowels, burning heat, intolerable thirst, vomiting and purging, perspiration, labored respiration, gradually failing sight. The hearing remained unimpaired, and the mind clear until 4.45 P. M., when delirium set in, followed by complete unconsciousness at 5 P. M. As sight failed, things at first looked pale green, then dark green, then black. At 4 P. M., sight was lost. The case ended in death. This patient took, of his own accord, some infusion of tobacco to produce vomiting, a circumstance which doubtless modified the symptoms, and may have contributed to the fatal result.

These cases prove that the oil of gaultheria, when taken internally, is highly irritant to the gastro-intestinal mucous membrane, and that it exerts a powerful influence upon the nerve-centres. As a poison, it must, therefore, be classed among the narcotico-irritants. As a remedy, it has been prescribed in rheumatism. The "National Dispensatory" and Wood's "Therapeutics" speak of the use of the plant as an emmenagogue. It is doubtless upon this theory of its action that its reputation as an abortifacient, like that of other aromatics, is based. It probably has no just claim to this distinction; but the oil certainly resembles the abortifacients in this, that when taken in decided doses, it is pretty sure to kill the mother. It is stated in the "United States Dispensatory" that the oil of gaultheria is sometimes adulterated with chloroform. If this is so, it is possible that some of the neurotic symptoms ascribed to it in the cases which have been reported may have been due to this impurity.

— Two new books of popular nature are announced from Dr. S. Weir Mitchell: one, a volume of essays entitled "Doctor and Patient," and intended especially for women; the other a novel, "In the Far West."

[4] New York Medical Journal, 1875, Vol. XXI, p. 602-605.
[5] New York Medical Gazette, 1867 and 1868, Vol. I, p. 380.

FOUR CASES OF PENETRATING WOUNDS OF THE KNEE-JOINT TREATED AT THE BOSTON CITY HOSPITAL.

REPORTED BY OLIVER H. HOWE, M.D., *Formerly House-Surgeon.*

Case I. Delayed Antiseptic Treatment. Prolonged Suppuration. Recovery.

J. F. B., twenty-one years old and a carpenter, one day stuck a chisel two inches wide, into his left knee. He walked a short distance afterwards, but while going up stairs, felt something snap and almost fainted. Said that pus came from the knee the next day. No chills. General health excellent. Drank some beer. Was treated at home for three days with cold-water dressing and ham-splint.

Three days after the injury he was brought to the hospital and admitted to Dr. Gay's service. The left knee showed an incised wound about an inch and a half long just above the upper edge of the patella. Fluctuation about joint, with patella floating: also an area of diffused redness about the wound. On pressure, much thin purulent fluid exuded from the cut. The knee was very tender. Temperature, 102.3°; pulse 100.

Six leeches were applied to the knee and followed by a poultice. The joint was irrigated daily with 1 to 40 carbolic solution.

Third day. Suppuration rather less; dressing of iodoform gauze applied.

Ninth day. More suppuration; knee-joint distended. Temperature was rising gradually at night, tongue had heavy, whitish coat; appetite poor. Required a grain of opium every six hours. Temperature rose to 103.8°.

Twelfth day. Pus was burrowing up the thigh. Pressure six inches above the knee brought copious discharge from the tubes; redness extended half-way up the thigh. Pain increased until on the 17th day Dr. Gay enlarged the wound above the knee, under ether. The finger readily passed into the joint. Counter-openings at inner and outer sides of joint were made and a drainage-tube passed directly through the joint cavity.

Twentieth day. Pus which had been pocketing in the thigh was evacuated by pressure.

Twenty-first day. Temperature lower; felt better; less suppuration.

Twenty-second day. Incision under ether at inner side of knee, evacuating three or four ounces of pus.

Twenty-fourth day. Pus cavities seemed to be completely drained. Temperature had fallen to normal.

From this time the patient steadily improved. Three small pockets of pus were incised at different times; the tubes were shortened and finally dispensed with. Opiates became unnecessary. The tubes were wholly removed and splint omitted on the seventy-second day. After the latter time, the wounds soon became superficial and the swelling disappeared.

Eighty-eighth day. After having sat up for several days, patient walked with crutches. Could bear considerable weight on the foot without pain. Temperature since forty-fifth day had been practically normal.

Ninety-sixth day. Motion of 15° in knee-joint.

One-hundred-and-second day. Walked readily with a cane; could bend knee at an angle of about 30° without pain. Had gained much flesh and was in excellent physical condition. Discharged well from hospital.

CASE II. Treatment neglected for Eight Days. Extensive Suppuration. Pyæmia (?). Death.

R. J. M., a boy, twelve years of age, was brought to the hospital, January 7, 1887, and assigned to the service of Dr. Bradford. His story was as follows: Eight days before entrance, while using a draw-shave, it slipped from his hand, fell and struck his left knee, making a transverse cut just above the patella. His mother applied strips of adhesive plaster to the wound and he remained in bed for three days. At the end of this time, feeling no pain, he got up, dressed and walked about the house for a day. Having considerable pain in the knee that night, his mother, by advice of the neighbors, applied a flaxseed poultice. The pain gradually increased, until, on the eighth day, a physician was called in, who advised immediate removal to the hospital.

At the time of entrance, an incised wound an inch long was seen just above and to the outer side of the left patella. Pus was oozing from the wound and about it was an area of diffused redness rather larger than a silver dollar. The whole knee was swollen, painful and very tender. Temperature 103.2°; pulse 100.

A poultice was applied to the knee and quinine and brandy were given at intervals in moderate doses. The next day the patient was etherized, the knee examined and the wound was found to communicate with the knee-joint. Free incisions were then made to drain the joint cavity; two at the outer side and one at the inner; also one in front of, and below the patella. Several ounces of pus came away from the openings at the inner side. The joint was washed out by irrigation with corrosive-sublimate solution (1 to 5000) and drainage-tubes inserted. The wound was then dressed antiseptically with iodoform and gauze and an extension by weight (2 lbs.) applied to keep the limb steady.

The following day (the second after entrance) the boy was much more comfortable and the temperature rose only to 101.4°. The dressing soaked through with discharge and was renewed. The third day after entrance, much pus was found about the joint, the boy seemed weaker and his stimulant was increased.

On the evening of the fourth day the temperature rose to 104.8°, but with antipyrin (grs. xxx) it fell to 101°. On the sixth day, there was very little pus on the dressing, but pain and tenderness were found on the inner side of the left ankle and also in the right elbow. No fluctuation detected at either of these places.

On the eighth day the temperature was taken hourly. Between the hours of two and three P. M., it fell from 104° to 103.4°; at five P. M. it was 106°. At the dressing, no pocketing of pus was found and the granulations looked well. The patient's manner was peevish and fretful and growing constantly more so. The heart was carefully examined at the time of entrance and found negative; on the eighth day a systolic murmur was heard at the apex.

On the ninth day the temperature showed two slight remissions and at six P. M. was 105°. The patient was much weaker and had become delirious.

On the afternoon of the tenth day the temperature fell two degrees and regained its former elevation in six hours. The pulse was between 160 and 170. The patient gradually became weaker and died just before midnight on the tenth day after entrance, and eighteen days after the receipt of the injury. No eruption on the skin was seen at any time and no signs in the lungs were detected. No autopsy could be obtained.

CASE III. Prompt Antiseptic Treatment. Union by First Intention.

W. H. O., forty years of age, an expressman, was lifting a stove out of a wagon. The stove, which was said to weigh about 600 lbs., suddenly slipped and its sharp lower edge struck heavily across his right thigh just above the knee, making a sort of incised wound.

The man was brought at once to the hospital and admitted to the service of Dr. Gay. The right thigh showed on its anterior and outer aspect, just above the knee-joint, an incised wound six inches long. Through this wound, the finger, introduced downward, readily entered the joint cavity.

The wound and cavity of the joint were irrigated with carbolic solution 1 to 40, and a drainage-tube inserted at the lower angle of the wound. The wound was then closed with silk sutures, a dressing of iodoform gauze applied and the limb placed on a ham-splint. No ether was given.

Three days later the wound was redressed for the first time and found to be in excellent condition; no redness or suppuration and only moderate swelling.

Sixth day. Wound had healed by first intention, except where drainage-tube was. Stitches removed.

Tenth day. A few small grayish shreds had come away through drainage-tube, but there was no sign of suppuration. No swelling or tenderness about the knee-joint.

The tube had been shortened several times and was removed on the seventeenth day. On the nineteenth day the antiseptic dressing was omitted. On the twenty-fourth day, all dressing was omitted over knee. Ham-splint remained on. The temperature had never risen above 100.5°.

Thirty-first day. Sat up in chair, but no bending of knee was allowed.

Thirty-fifth day. Union seemed perfect. Could move knee considerably without pain, but had not walked yet. All seemed firm and well. Went out from hospital without any splint and was to remain quiet at home a little longer.

CASE IV. Prompt Antiseptic Treatment. Union by First Intention.

R. M., a carpenter, fifty-four years of age, was hewing timber on July 27, 1886. His broad-axe suddenly glanced and struck the outer side of his left knee, causing a wound and profuse hæmorrhage. He at once bound his handkerchief tightly about the knee, using pieces of his coat-lining to reinforce it. Twenty minutes later, Dr. David E. Baker of Newton Lower Falls, who had been summoned, found him sitting on a pile of boards out-of-doors, supporting his knee with both hands. On removing the handkerchief, a wound about three inches long, close to and parallel with the outer edge of the patella, was seen. There was no external bleeding, but the joint was found to be full of blood and clots. While tying several small arteries, which were bleeding, Dr. Baker sent to the nearest house (about one-eighth of a mile away), for boiling water. Cooling the water until the patient could tolerate the heat, he washed out the joint cavity by means of a Davidson's syringe. While doing this, he found that a crescentic flap of cartilage three-

fourths of an inch long, had been turned up by the axe from the articular surface of the femur. Pushing this into place, he blew iodoform into the joint and the external wound, sutured the capsular ligament with fine, untwisted silk, and the external wound with coarser silk, applied pads of absorbent cotton and bandaged the joint snugly. Having thus treated the patient, he drove him in his buggy to the nearest railroad station, whence he was taken to the Boston City Hospital, where he arrived about four hours after the accident. He was assigned to the service of Dr. Bolles.

After reaching the hospital, a ham-splint was added to the dressing. The next day, on removal of the dressing, a little clear fluid was seen to ooze from between the edges of the wound, at one end. Pressure caused much more of this fluid to escape. The joint-cavity was then irrigated with carbolic-acid solution (1 to 40), the wound dressed with iodoform gauze and the splint re-applied.

The third day after entrance, the dressing was again removed and considerable colorless fluid pressed out. A little redness was seen about a part of the wound, but no signs of pus and there was no pain.

On the fifth day after entrance, the joint was irrigated with corrosive-sublimate solution (1 to 3000); this was repeated on the ninth, sixteenth and twenty-third days, respectively. No synovial fluid was seen after the fifth day and no pus was seen at any time. The patient had almost no pain and there was no swelling or redness, except that already mentioned, which quickly subsided.

The highest point reached by the temperature was 100.4°, on the day of entrance. After the eighth day it was normal. The pulse was never more rapid than 85.

On the twenty-ninth day, the wound was entirely healed; the dressing was then omitted, but the splint was kept on. On the thirtieth day, the patient was allowed to walk about with crutches and on the thirty-third day he left the hospital. At time of his discharge from the hospital, he could bend the knee slightly without pain and had no swelling about the joint. He wore home a ham-splint with a bandage and slight compression over the knee. One month after leaving the hospital (about two months after the injury), he was seen again and had completely recovered the use of the joint and resumed his occupation.

These four cases well illustrate the different results following the use of careless and inadequate measures (or no measures at all), and those obtained by the prompt use of thorough antiseptic treatment. This difference is especially well shown in case of a wound of a large lymph cavity, like the knee-joint. The far-reaching and destructive effect of absorption of infectious or unclean material is strikingly shown in Cases I and II.

The injury in all these cases, was almost identical. Three of the wounds were made with sharp, cutting instruments; the edge of the stove, although less sharp, produced in effect, an incised wound. The injuries in the two cases which rapidly got well under antiseptic treatment were the more severe of the four. Of the two cases which had union by first intention, one was able to leave the hospital in thirty-three days; the other in thirty-five days, while the one which recovered after suppuration, required one hundred and two days to reach the same result. The case which was neglected for eight days died in eighteen days from the time of the injury. In the two cases which were antiseptic throughout, the highest point reached by the temperature in either case was 100.5°; the constitutional conditions were at a corresponding degree of comfort.

Much care was used to preserve immobility of the limb during the whole process of repair. In Case III, the dressing was so arranged that the ham-splint was never disturbed when the wound was dressed.

These cases certainly show that early treatment is of the utmost importance; for no amount of later antiseptic treatment can wholly neutralize a bad beginning. Dr. Baker's treatment was unique and the promptness and skill, with which he carried it out, are worthy of imitation.

REPORT ON DISEASES OF CHILDREN.

BY T. M. ROTCH, M.D.

HEPATIC CIRRHOSIS.

During the past year cirrhosis of the liver, as it occurs in children, has been made the subject of especial study by Dr. P. Laure, of Lyons, and by Dr. R. P. Howard, of Montreal. The former investigator has published the results of his personal observations on five cases which came under his care at the Charité, in the April number of the *Revue Mensuelle des Maladies de L'Enfance*. He speaks especially of the importance of prophylaxis in regard to the use of alcohol and also in the dissemination of the contagious diseases, for he believes that although the hepatic lesions accompanying these diseases are usually transitory, yet that in certain cases they may become the starting point of a real cirrhosis: he also considers that cirrhosis in children is of more frequent occurrence than is usually conceded, and that quite a number of cases are mistaken for tubercular peritonitis. The principal symptoms of the disease are icterus in the beginning, and later, ascites.

Dr. Howard has made a more extended study not only of his own cases but those of others and has presented his views on the subject and an analysis of sixty-three cases in the *American Journal of Medical Sciences* for October, 1887. He prefaces his remarks by stating that the disease is a rare one in children and that in speaking of cirrhosis he means to describe a diffuse development of the connective tissue of the liver without reference to the question of the inflammatory or the simple hypertrophic nature of that development, the word interstitial hepatitis being employed as synonymous with hepatic cirrhosis.

The following is an abstract of his article: The known conditions in the human subject under which interstitial hepatitis occurs, may be classified as follows:

(1) Tonic or irritating substances entering the blood (*a*) alcohol, (*b*) syphilitic virus, (*c*) malaria, (*d*) probably, but rarely lithic acid, (*e*) blood pigment in diabetes.

(2) Chronic congestion of the hepatic vein, as in valvular and pulmonary diseases and in those rare affections, obstruction or obliteration of the hepatic veins or of the inferior vena cava above the entrance of the hepatic vein.

(3) Adhesive inflammation of the portal vein especially the syphilitic variety.

(4) Extension of the inflammation to the interstitial tissue of the liver in chronic peritonitis and in perihepatitis.

(5) Obstruction of the bile ducts, whether from congenital defects (absence of common duct) or from acquired disease (tumors, gall-stones or experiment ligatures).

(6) In association with tubercular disease, especially of the lungs.

(7) As part of a general tendency to new formation or hypertrophy of connective tissue in the system, the so-called fibroid diathesis.

The author then compares with these known causes sixty-three cases of cirrhosis of the liver in children up to the age of puberty, excluding any cases of young adults and cases due to congenital defects of the bile ducts. His analysis resulted as follows: In the first place the above mentioned conditions were alleged to be present in but thirty out of the sixty-three cases, leaving over one-half of these to be accounted for in some other way.

(1) The ordinary cause of the disease in adults, the excessive use of alcohol, was found in only ten of these cases in children; its absence was noted forty-seven times and no mention was made of it in six cases. (2) An heredito-syphilitic origin was found in seven cases, the cirrhosis existing at birth in all but one; the absence of a syphilitic causation was affirmed in twenty-nine cases and no mention of it was made in thirty cases. In three of the syphilitic cases the virus set up an adhesive peripylephlebitis which terminated in a diffuse interstitial hepatitis, and these are the only instances in the whole number of cases of hepatic cirrhosis in children in which adhesive inflammation of the portal vein was the starting-point of the process. (3) Venous congestion of the liver a not infrequent factor in the production of cirrhosis in the adult, existed in but a solitary case. (4) The lithic-acid diathesis is not once mentioned as being present in these cases and the same is true of malaria; the absence of the latter, however, is only affirmed seven times; it may often have been overlooked. (5) In a single case the existence of a wide-spread false membrane in all parts of the abdomen and a complete envelope of it enclosing the liver, suggests that a peritonitis may have extended to the capsule of the liver and excited the interstitial hepatitis. In another case there were numerous adhesions between the liver and surrounding parts, but no general peritonitis. (6) The association of hepatic cirrhosis with tuberculous disease occurred in seven of these cases, about the same proportion as that in which cirrhosis and syphilis were co-existent.

In only six of the fifty-seven cases of non-syphilitic cirrhosis of the liver, omitting those in which the liver and spleen but no third organ had undergone cirrhotic changes, could it be shown that the hepatic cirrhosis was the outcome of a general tendency of the system to fibrosis, and in only one of them was found such a thickening of the walls of the blood-vessels, as would justify the theory that an arterio-capillary fibrosis was the source of the hepatic cirrhosis, at least in children. It is, however, to be borne in mind that the condition of the vascular system has probably not been investigated often in this affection in childhood.

In twenty-four of the fifty-seven cases of the non-syphilitic group, the spleen was abnormal.

The cause then having been determined in only about half of the cases, Dr. Howard takes up the question of the etiology of the remaining half, and he first refers to the suggestions of previous writers on this subject, such as Budd, who supposed that there "might be other substances among the immense variety of matters taken into the stomach or among the products of faulty digestion, which on being absorbed into the portal blood, cause, like alcohol, adhesive inflammation of the liver." Botkin also advanced the hypothesis that the acute infectious diseases might originate chronic inflammatory processes in the parenchymatous organs, because he had found beginning interstitial inflammation of the liver, in persons dying of cholera and of typhoid fever, while Klein described an acute interstitial hepatitis as being present in eight cases of scarlet fever which he had examined. Again referring to the analysis of the thirty-eight cases of cirrhosis of the liver which could not be referred to any of the established causes of that affection the author finds that in ten instances the cirrhosis was preceded by the following acute infectious diseases, with a larger or shorter interval: that is, scarlet fever twice, measles and scarlet fever once, measles alone four times, measles and pertussis three times; of the remaining twenty-eight cases antecedent acute infectious diseases did not occur in three and are not mentioned as occurring in twenty-five. Even if it be granted that, in the nine cases in which acute infectious fevers did precede the hepatic cirrhosis, they really originated the interstitial lesion (a supposition which can hardly be accepted after we consider the great frequency of these infectious diseases in childhood without a resulting cirrhosis), there remain three in which those diseases had not occurred, and twenty-five in which they were not mentioned, and for such examples of hepatic cirrhosis, Howard considers Budd's explanation to be highly probable, indeed it is more especially in childhood, when alcohol as a cause of hepatic cirrhosis, can be, in a large proportion of cases, safely ignored, that we feel disposed to accept the view that the products of faulty digestion and certain stimulating kinds of food conveyed to the liver, set up interstitial hepatitis, although it is impossible to bring much evidence in favor of this mode of causation, owing to the absence of information as to the habits, diet, etc., of the cases which have so far been reported.

The age at which cirrhosis of the liver occurred in the 56 non-syphilitic cases (omitting two where the age was not stated) was as follows:

Under 3½ years.		5 to 8½ years.		9 to 13 years.		14 to 18 years.	
Birth	1	5 years	4	9 years	5	14 years	1
3 months.	1	5½ "	1	10 "	7	15 "	1
17 "	2	6 "	2	11 "	7	18 "	1
20 "	1	7 "	3	12 "	5		
2 years	1	8 "	2	13 "	4		
3 "	2	8½ "	1				
3½ "	2						
Total,	10	Total,	13	Total,	28	Total,	3

The above table shows that the greatest liability in childhood to hepatic cirrhosis is from the ninth to the twelfth year, inclusive. As regards sex, there were 35 males, 17 females, and in 4 cases the sex was not stated. Regarding the character of the cirrhosis in these 56 non-syphilitic cases, the atrophic form oc-

curred in 19, the hypertrophic in 13, in 6 the liver was of normal size, in 16 this point is not mentioned, and in 2 the patients were still living. The author finds that the symptoms of hepatic cirrhosis in children are identically those of the disease in the adult. In 10 out of 52 cases uncomplicated by other affections which might produce pyrexia, cirrhosis was associated with fever; that is, in 19.2 per cent. In the 56 non-syphilitic cases, ascites existed in 34; it was absent in 8, and not mentioned in 14. Icterus was present in 23 cases, absent in 12, and not mentioned in 21. It was present in the hypertrophic form in 70 per cent. of the cases, and in the atrophic form in 71.4 per cent. The fatal issue of hepatic cirrhosis in children is brought about in many different ways, but three are especially frequent: namely, by toxæmia or certain disturbances of the nervous system, by peritonitis, and by asthenia, in the production of which hæmorrhage plays an important *rôle*. The toxæmic symptoms in these children were, more especially, violent fits of crying, and frequently, of screaming, delirium, dilated pupils, stupor, tremor, twitchings, clonic or tetanic convulsions, rigidity, coma, and hæmorrhages from the stomach, nose, intestines, or kidneys.

The summary made by the author from his analysis of these 63 cases of hepatic cirrhosis in children is as follows:

(1) That most of the established causes of the disease in adults occur also in children, more especially the use of alcohol, which was present in 15.8 per cent. of the whole number; syphilis, chiefly hereditary, present in 11 per cent.; tuberculous disease of other organs than the liver in 11 per cent.; also, but much less frequently than these, venous congestion of the liver, peritonitis, and a general tendency to connective-tissue formation in the system. (2) That syphilis occasionally tends to a diffuse interstitial hepatitis or cirrhosis by first inducing an adhesive inflammation of the portal vein. (3) That a general arterio-capillary fibrosis is not proved by these cases to be the usual, and probably not even a frequent cause of hepatic cirrhosis in childhood. (4) That more than half of the cases of hepatic cirrhosis in children do not appear to be produced by the above-mentioned well-established causes of that affection. (5) That there is some evidence that cirrhosis of the liver may be very exceptionally induced by the acute infectious diseases, cholera, typhoid fever, measles, and scarlet fever, but that proof of this is wanting. (6) That the habitual use of a stimulating diet, or the absorption of the products of faulty digestion, are probably fruitful sources of hepatic cirrhosis in children. (7) That it is in harmony with what is known of the causes of hepatic cirrhosis to believe that the bodies known as ptomaines may be capable of exciting a cirrhotic condition, and that investigation of this subject deserves attention. (8) That the period of childhood most liable to the disease is from the ninth to the fifteenth year, inclusive, but that it may be congenital, and may occur at any age after birth. (9) That it is twice as frequent in male children as in female. (10) That its symptoms are essentially the same in childhood as in adult life. (11) That it is frequently accompanied by pyrexia. (12) That ascites or icterus, and frequently both together, are of common occurrence in both the atrophic and hypertrophic forms. (13) That the group of symptoms which have been referred to cholæmia, or to cholosteræmia or to acoholia, and even, sometimes, to uræmia, frequently ushers in the fatal issue of hepatic cirrhosis in children.

GLIOMATOUS HYPERTROPHY OF THE PONS.

Prof. Henry Hun, of Albany, has lately published such a valuable report of a case of glioma in a child, and the disease is so rare in the literature of pediatrics, that an account of the case, as given by him in his reprint from the *Medical News*, will add much to our knowledge of differential diagnosis in cerebral disease — knowledge which is of special importance to those who are liable to be confronted by the complex nervous symptoms, simulating, at times, serious lesions, where, in reality, no such lesions exist, but are merely reflex manifestations of the extremely hypersensitive nervous organization of infancy and childhood.

Case. Steadily increasing incoördination of movements, bulbar paralysis, and general motor paresis. Glio-sarcoma of the pons varolii.

April 17, 1886. C. L., female, aged six. The father of the patient died a little more than a year after she was born, with symptoms of melancholia and dementia. An autopsy was held, of which no account can be obtained, excepting that the mother states that there was found "water on the brain and tumor of the brain." There have been many cases of nervous disease in the family of the father, but none in that of the mother. The patient has had a number of attacks of spasmodic croup, and, three years ago, had measles. For a number of years, her left leg has become tired easily, and for some time she wore a rubber strap on her left foot, which showed a tendency to turn in. Otherwise, she has been in excellent health till two months ago, when she had an attack of croup, followed by a cough. Every time she coughed she felt a severe pain in the top of her head, but at no other time had any pain in her head. About three weeks ago she began to walk badly, and seemed to have trouble in balancing herself when standing. Her mind is clear, her memory is good, and she is not in any way nervous. She has an excessive appetite, and has vomited a little at times. She is a well-nourished, intelligent girl, but has a vacant expression. Her speech is drawling. She keeps her mouth open most of the time, drools when eating, and has some difficulty in swallowing. Her head is drawn toward the right shoulder most of the time, especially when she makes any exertion.

She stands with her feet wide apart, and is careful not to lose her balance. When she walks, her right leg seems more rigid than her left, so that she takes freer and longer steps with her left leg, and consequently, in walking, she tends to walk in a circle, turning always towards the right. Her walk resembles that of a drunken person, being very unsteady, swaying and pitching, as if, every moment, she were about to fall. Her legs and arms are rather weak, and the movements of her arms, especially of the right, are very awkward, but she holds them in no fixed position. There is no disturbance of sensibility in any part of the face, body, or extremities, and she recognizes objects placed in her hands when her eyes are shut. Plantar reflexes normal; no ankle clonus; knee-jerk exaggerated, especially on the right side. On ophthalmoscopic examination, well-marked optic neuritis is found in both eyes. Urine contains neither albumen nor sugar.

May 21st. She has slowly, but steadily failed, and her legs and arms are weak. Her legs bend under her, and she can neither walk nor stand. Tactile, painful, and thermic sensibility is normal in all parts of the body. She is dull, but her intelligence seems intact, and she shows little, if any, loss of memory. Her articulation is indistinct, deglutition is difficult, uvula is raised very sluggishly, though equally, on both sides, and the movements of the tongue are sluggish, though it is protruded without deviation. The pulse is small, varying from 120 to 140. At times, when she is asleep, her respiration is very rapid and panting, but it is rather slow when she is awake. When asleep, her eyelids are partly open, and the eyeballs are turned outward; but when she is awake, the eyeballs at times turn slightly inward, so that she squints, although no paralysis of any of the ocular muscles can be detected.

June 4th. She has been decidedly better lately, and her articulation and deglutition have improved slightly. She is brighter, and can sit up without assistance, but cannot walk. Two days ago, a well-marked ankle clonus could be obtained in both feet during the whole day, which has not been present either before or since.

June 13th. During the past week, she has steadily and rapidly failed. On some days, the left arm and leg have appeared completely paralyzed, while, on other days, she would move them a very little. She has been able to neither walk, stand, or even hold up her head, which falls backward, forward, or to either side, according to the position in which she is held. Her hearing and cutaneous sensibility have remained unaffected, and her sight is but slightly impaired. Lately, she has given indication of having pain in the occipital region, and there has been a decided increase in the size of her head during the past week or ten days. She has had no convulsions. Her pulse has been small and feeble. This morning, her respiration was stertorous for a few hours, and then became normal. Her intelligence seemed clear until the very moment of her death, which took place quietly and suddenly this evening.

Autopsy twenty-four hours after death: head only examined. Bones of skull rather thin. Dura mater adherent only slightly to skull-cap. Increased amount of subarachnoid fluid. Cerebral convolutions flattened, and cerebral substance very œdematous. Corpus callosum is pressed upward, and is very soft and thin, and almost broken through. Great and uniform dilatation of both lateral ventricles, which are filled with fluid of normal appearance. No dilatation of third and fourth ventricles. Cerebellum normal.

The pons varolii, as seen both from the base of the brain and from the fourth ventricle, is greatly enlarged, being three or four times the normal size. On section, the whole pons is found to be replaced by a tumor, apparently a glioma, which preserves wonderfully the normal appearance of the part, so that it looks like a great hypertrophied pons. A little posterior to the middle of the pons, on the right side, is a focus of softening, spherical in shape, and about three-quarters of an inch in diameter. When hardened, a section of the pons at its largest point measured two and a half inches in width, and one and three-quarters inches in depth. The tumor seems to be confined pretty accurately to the pons, the crura cerebri and the medulla oblongata being but slightly enlarged. On microscopical examination, the nervous elements of the pons are found to be encroached upon, infiltrated, and, in some places, by a great accumulation of small cells. The prevailing character of these cells is spindle, although there is a considerable number of sphenoidal cells, both large and small. There is no considerable development of "spider-cells." Between the small, newly-formed cells there seems to be a delicate, newly-formed basement-membrane, independent of the neuroglia. There is also present a very great many newly-formed vessels full of blood. The proliferation of cells is not limited to the pons, nor is it circumscribed by any sharp line, but extends throughout the the whole extent of the crura cerebri and the medulla oblongata, being less abundant the farther the section is removed from the pons. In the anterior part of the crura cerebri, the roof of the aqueductus Sylvii seems to be the especial seat of the glioma. The wall of the canal is remarkably firm and well defined, except at its extremity, where it terminates in the softened tissue on the under surface of the crura cerebri.

Professor Hun then remarks that, in regard to the exact nature of the tumor in this case, the diffuse, infiltrating, rather than displacing, character of the growth, makes it resemble a glioma; while the form of the cells, the presence of a basement-membrane, and the absence of any considerable new development of spider-cells, is in favor of its being a sarcoma. Such tumors are sometimes called glio-sarcomata; but, in consideration of the remarkable way in which the normal (though hypertrophied) appearance of the pons is preserved in these tumors, it seemed to him to be better to call them by the name proposed by Kuemmel, "gliomatous hypertrophy of the pons."

ANTIFEBRIN IN THE FEBRILE DISEASES OF CHILDREN.[1]

The treatment of a number of diseases in children with antifebrin, and comprising, in all, fifty-three cases, gave the following results: The temperature began to decline in from ten to twenty minutes after the medicine was given, and continued steadily until it reached its lowest mark; then, after remaining at this point for a short time, it began to rise again. The rapidity with which the temperature declined seemed to depend not so much upon the size of the dose as upon the peculiarity of the child and of the disease. The general condition of the children was noticed to be affected favorably, a previously restless and fretful condition being followed by quiet and sleep. In several instances, severe symptoms connected with collapse were quickly relieved. Scarlatina and erysipelas were more rebellious to the antipyretic action of the drug than any of the other diseases in which it was used, the temperature falling only a few tenths of a degree.

In pneumonia, occurring as a complication of measles, and in croupous and lobular pneumonia, the antipyretic action was prompt and energetic. The pulse became fuller, its frequency being diminished, though not always in proportion to the decline of the temperature. The respiration became deeper and more quiet. The drug was given in the form of powder, and in doses of ten centigrammes to children three or four years old. To older children, twenty, thirty, or even fifty centigrammes, were given. Small doses usually sufficed for poorly-nourished chil-

[1] Hidowitz Centralbl. f. K., July 9, 1887. Arch. of Pediatrics, October, 1887.

dren, the action of the drug being much more energetic in these cases than in more robust children. As much as two grammes were given in the course of a day. Antifebrin never produced any perceptible effect on the duration of the disease. In some cases of pneumonia, its use was accompanied by profuse perspiration, with cyanosis of the face and the ends of the fingers.

ANTIPYRINE FOR FEBRILE CONDITIONS DURING DENTITION.[2]

The usefulness of antipyrine in infantile therapeutics is daily becoming greater, and its value in bronchopulmonary diseases of a febrile character has been shown in a number of cases. Dr. Clemente-Ferreira has also found the drug to be used with advantage in the febrile conditions which accompany the evolution of the teeth. It appears to have a perceptible sedative effect upon the nervous system. If the stomach is sensitive, it is desirable to give the drug by the rectum.

Reports of Societies.

PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

OCTOBER 8, 1887, the President, DR. WILLIAM L. RICHARDSON, in the chair.

DR. C. ELLERY STEDMAN reported the following case of

SERIOUS COLLAPSE FOLLOWING LABOR INDUCED IN THE NINTH MONTH ON ACCOUNT OF ANTE-PARTUM HÆMORRHAGE.

Mrs. N., aged thirty-six, pregnant with her third child, had always had good health; her last period was January 14th, and she expected to be confined October 21st. October 4th, up to which date she had been perfectly well, hæmorrhage set in, soaking through more than a dozen napkins, and several folded sheets, with clots as well as liquid blood: this continued till Dr. Stedman saw her at 4 P. M. of the 5th, in place of the physician engaged to attend her who was ill, having seen her about noon of the day before, but who made no examination. Dr. Stedman found the os thick and soft, dilated to the size of a half-dollar; there were no pains, but a feeling of downward pressure which she had learned to recognize as a premonition of labor: there was no active hæmorrhage, but a slight leakage going on. It was thought best to induce labor, though her pulse was little affected by the bleeding, yet it was unknown what a second flow might end in. The child lay L. O. A.: on account of the mother's stoutness, the examining finger could not reach inside the os to ascertain the presence of placenta, without etherizing the patient and introducing the hand within the vulva. In this case ether was considered objectionable. A catheter without stylet was supposed to be guided into the uterus; but it probably doubled up on itself, for it failed to excite pains, and time was unnecessarily lost until a second catheter was introduced with stylet, and pains began in a short time. There was now apparently little or no blood lost. After a few strong, expulsive pains, a fine boy was born alive at 2 P. M. of the 6th, with not as much loss of blood as usual (twenty grains of choral had been given at one o'clock). A drachm of ergot was administered: the placenta was expressed in fifteen minutes, and all seemed going well, only mischief was feared because the pulse grew rapid. Half an hour after the birth, the patient suddenly exclaimed that she was weak, and collapsed utterly, although there was no bleeding and the uterus was firmly contracted. The usual remedies were employed, but for a long time she seemed unlikely to rally. The patient's face was livid; there was dyspnœa; she tried to tear open her night-gown, cried for air; the pulse irregular and hardly to be felt, indeed was altogether lost at times: the intelligence was undiminished.

There was little chance for, and no attempt at, auscultation, all the attendant's efforts being directed towards keeping the patient breathing. The most effectual stimulant proved to be a hot, weakly carbolized, intrauterine injection which was given about eight o'clock with signal benefit, and the patient grew quiet, the pulse although about 125, was to be felt, and she fell asleep.

Improvement went on until the third day, when she had a violent chill; the temperature reached 102,° the pulse 120: on the fourth day it was 103°. The lochia was offensive, (though the vagina on the first appearance of odor had been douched antiseptically) and on the evening of the fourth day, after the vagina had been washed out, Dr. S. Crowell (whose efficient assistance in this trying case was invaluable) at my request administered a carbolized intrauterine douche as hot as could be borne: an offensive odor came from under the bed-clothes as the douche was given; but the smell of carbolic-acid overpowered it in the bed-pan. The temperature immediately fell from 103° to 100.5° and the pulse from 120 to 112, and improvement and recovery followed: on tenth day she sat up.

Dr. Stedman called the case one of partial placenta prævia; but the only mark on the placenta was a thin margin of coagulated blood on a sixth part of its circumference, and he was unable to touch any presenting part of the afterbirth before or during labor.

Did the chloral play any part in causing collapse? Was it entirely shock? Would ether have lessened or prevented the shock?

Were the symptoms of collapse due to a forming thrombus of pulmonary artery or veins, as in a case of recovery from embolism reported by Dr. Stedman to this society several years ago, when he quoted Playfair's three or four cases of recovery, with his remark that "it will be readily understood why, in the presence of so sudden and awful an attack, symptoms have not been recorded with the accuracy of ordinary clinical observation"? Playfair has the fullest and best account of this accident of any writer whom Dr. Stedman had read.

Again, what was the fever owing to? All antiseptic precautions were strictly observed by the physicians: the nurse was an old-fashioned one, but faithful and devoted: the patient's husband was sure that she followed all orders. The catheters were supposed to be new, and were washed in the sublimate solution.

DR. MINOT thought that the collapse was hardly due to embolism, but rather to exhaustion from the previous hæmorrhage; as to ether in such cases, he had never regretted using it.

[2] Archiv. for Pediatrics, February, 1887.

DR. INGALLS also thought the collapse was probably due to exhaustion.

DR. REYNOLDS could see no objection to the use of chloral, and thought the symptoms were due to antecedent hæmorrhage; he agreed entirely with the reporter as to the importance of prompt delivery in such cases.

DR. ELLIOT inquired if there was any douching after labor, and if possibly air-embolism might not have been thus occasioned.

DR. STEDMAN said that a corrosive douche had been administered immediately after labor; but the idea of air-embolism had not occurred to him.

DR. STRONG had seen one case of death from embolism in a hospital patient. The symptoms were different, however, from those in the case reported: the patient was quiet, and complained only of lack of air; there was no violence, only sighing and tossing of the head.

DR. BLAKE agreed with the reporter regarding the advisability of prompt delivery when ante-partum hæmorrhage suggested the probability of placenta prævia. He also alluded to the case of partial placenta prævia complicating twin pregnancy in a primipara. As the hæmorrhage was considerable, he performed podalic version of the first baby, the second following soon after, and the patient making a good recovery.

THE PRESIDENT thought Dr. Blake's case one of great interest, especially on account of the success of version in a twin pregnancy. In Dr. Stedman's case he thought the collapse was due to shock and to the previous hæmorrhage.

INDUCTION OF PREMATURE LABOR.

DR. MINOT reported two cases. The first was that of a lady forty years old, primipara, six months pregnant. She had had swelling of the legs, albuminuria with casts and other threatening symptoms for ten days previously, and on May 25th had a convulsion, which was followed by several others. On the 27th she was somnolent; there was general cyanosis; lungs œdematous; pulse 132; respiration 48. The tongue was bitten. Under chloroform the os was dilated with the fingers, aided by a glove-stretcher, without much difficulty. The forceps were introduced by Dr. Gardner of Providence, and the patient was easily delivered. There was no hæmorrhage. The patient died the next day, but Dr. Minot could not learn the particulars of her death.

The other case was that of a primipara, twenty years old, seven months pregnant, under the care of Dr. Forsaith, of Weymouth. Throughout her pregnancy she had suffered much from vomiting, but had been up and about until within four or five days during which the vomiting had been incessant. Nutritive enemata had been given, but they could only be retained a short time. She had had but little sleep, and that only from morphia. She was greatly emaciated, much exhausted, and apparently in a condition of much danger. The pulse was at 128, and weak. The os was dilated by the fingers, aided by a placenta-forceps, and the child, which presented by the breech, was extracted without much difficulty by Dr. Forsaith. Although living before the operation it was dead when delivered. There was no hæmorrhage. The patient had a comfortable night, and did well. The vomiting ceased at once.

DR. STRONG asked the consideration of the Society upon a question of both ethical and practical importance; the duty of the attendant in the first subsequent pregnancy in uniparæ who have passed through the precedent pregnancy and confinement with great danger to life, and who have endured years of invalidism in consequence. The query was suggested by a case in his practice which had given him much anxiety during the past two months. The patient, now thirty years old, was of an extremely neurasthenic type. She was confined five years ago. Although of previous good health the course of her whole pregnancy was marked by extreme nausea and vomiting and general prostration with reflex nervous symptoms of all kinds, so that twice the induction of premature labor was urged; but neither patient nor husband would consent. The symptoms persisted until the end of pregnancy. The first few hours of labor were fairly well endured and then the patient suddenly passed into a state of collapse so complete that immediate emptying of the uterus was demanded and accomplished. The statement of the attendant, given in his own words, is: "She was the sickest patient I ever saw recover. I expected her to die every moment; but she did eventually rally. It was a month before she was able to move herself at all, and many more before she was out of bed. There was no septic element in the case, but total lack of any rallying power. I do not believe it will be possible for her to go through another confinement and live." This attendant is a man of extremely good judgment, perfectly free from prejudice or timidity, and upon his opinion great reliance may be placed. The patient was referred to the speaker about three years ago as a case of neurasthenia dependent upon uterine disease. She then presented the whole class of reflex nervous symptoms in their fullest development. It was felt that until the lacerations of the cervix and perineum were repaired and the hypertrophied uterus reduced and pessaries done away with but little could be done for the amelioration of these symptoms. These operations were performed by another physician, and it was about nine months later she again came under the speaker's care, having during that time tried many and various doctors. Her condition at this time was worse than ever before,—in bed all the time, with the darkened room and all the surroundings of the most pronounced neurasthenic. She was at once put upon thorough treatment, which occupied the whole winter and spring, with the most gratifying results. During the summer she walked each day several miles, attended to all her household duties, reëntered society (from which she had been absent for five years), and was practically well. She still had occasional nervous symptoms, but had learned to pay no heed to them. Two months ago she became pregnant and everything was changed. Her appetite vanished, nausea was constantly present, and vomiting once or twice daily. Her weight decreased twenty pounds. Her nervous symptoms returned in all their force, and now she is in nearly as bad condition as last fall, and is losing ground daily. The speaker asked the advice of the society, first, as to the propriety, or rather the justifiableness, of interfering with the pregnancy, and second, if it be advisable, what time should be chosen. Should it be delayed until the patient's life is actually in danger and then add to her risks those of induced premature labor? Or should heed be paid to the warnings of probable trouble

already given, and the uterus be emptied now by curetting? The responsibility of the decision is grave; for if any prognosis is to be made upon the history of the former pregnancy and confinement, the chances of a fatal result of a labor completed at term are very great. Nor are they much more hopeful for induced labor at a viable age of the fœtus; while if the condition of the patient demands interference at an earlier period, perhaps at the fourth or fifth month, the prognosis is still more serious. Ought not, also, the probability of saving months or years of suffering to the patient should she survive labor induced before time, weigh a little in determining *immediate* interference?

The speaker asked that in considering the case the members would not lose sight of the fact that it was *not* upon the propriety of abortion for nausea and vomiting of pregnancy that advice was sought, for these were but two of a multitude of nervous symptoms, nor were they of extraordinary severity; but to consider how narrowly the patient escaped with her life in the former confinement, and in how much more precarious a condition she now was from her five years of sickness. Of course, the question of abortion except as the last resort, could be considered only in one pregnancy.

The questions asked by Dr. Strong were fully discussed by the Society, and the unanimous opinion expressed that the pregnancy should be allowed to proceed, certainly until symptoms of gravity presented themselves. It would not necessarily follow, because the patient had a long and trying, even critical, convalescence from her first pregnancy and labor, that the same condition would obtain in her second. The opinion was expressed that such patients will usually endure a good deal, much more than would naturally be expected. The patient would require careful watching, and should be treated as a neurasthenic throughout her pregnancy and convalescence.

Dr. Strong, replying to the question of Dr. Richardson, as to the results he would expect to attain by carrying out either in this case or a similar one the regular treatment for neurasthenia, stated that he would not expect very favorable results. Success in treating neurasthenia depends upon removal of the exciting cause, whether it be external surroundings or some physical disease; as long as the patient has an evident basis for her sufferings, just so long will it be found impossible to convince her that any of them are not real and compel her to disregard them.

Dr. Ingalls reported the two following cases as probable instances of

HIGH TEMPERATURE FROM NERVOUS CAUSES.

January 11th. Woman, age 22, had had pain all day in frontal region, and she attributed it to a defective molar; pulse 80; temperature normal. In bed all next day with feeling of languor. Pulse and temperature normal. On the third day patient reported that she awoke at 3 or 4 o'clock in the morning, finding the bed-clothes had slipped from off her back, and that she was chilly for a while. The morning and evening pulse and temperature were: Pulse, 96, temperature, 106°. The following morning both were normal.

January 17th. A single lady, at about 30; at morning visit reported shiverings, or "creeps," all the night before, and that she feels poorly; the digestive organs are a little disturbed; pulse and temperature normal. On the next morning the patient said she was languid and wished not to be disturbed. Pulse, 96; temperature, 106°. There was no flush, eyes bright, skin pleasant to the touch. She felt well on the following day.

ESSEX NORTH DISTRICT MEDICAL SOCIETY.

AUGUSTUS STABLER, M.D., SECRETARY.

Annual Meeting, Lawrence, May 4, 1887.

The President, Dr. E. P. Hurd, introduced Dr. Gage, of Worcester, President of the Massachusetts Medical Society, who made a few well chosen remarks on the purposes and objects of the great Society he represents, and the implied duties of its members in aiding the public to distinguish that which is real in the practice of medicine, from that which is unreal. He also thought we should feel bound to advance the public good in the great field of sanitary science and preventive medicine.

Dr. Arthur Sweeney, of Lawrence, read a paper on

PUERPERAL ECLAMPSIA.

Dr. Lovejoy, of Haverhill, said he had seen four cases during the past year, in all of which he bled to the extent of about three half pints, and all recovered. He used other measures when indicated. He had seen a case that was apparently dead suddenly restored by dashing a handful of ether in her face. He knew of nothing more unsatisfactory than to look for lesions after death from convulsions.

Dr. Gage made some remarks on the indications in the prodromal stage. He thought the most important point was the quantity of urine passed, without regard to whether it is albuminous or not. The prognosis is always favorable in albuminuria of pregnancy if the patient continue to pass an abundant quantity of water, whereas he thinks there is always great danger of convulsions if the quantity be greatly reduced. This idea was not original with himself, but was borne out by his experience.

Dr. F. H. Allen, of Haverhill, had treated eleven cases of eclampsia without a death. His practice is to bleed the patient freely as soon as possible. He then gives two drops of croton oil, to be repeated in an hour if it does not operate in that time. He occasionally uses veratrum veride as an auxiliary to the above measures.

Dr. Morrill, of North Andover, reported eleven cases, with five deaths. He thought three of his cases would have been fatal under any treatment. He never bled, but relied chiefly upon ether anæsthesia and the rapid delivery of the child, if it be still in utero.

Dr. Huse, of Georgetown, would not employ bleeding unless positively indicated by the circulatory symptoms. He had seen marked benefit from pilocarpine, and is in the habit of reducing the activity of the reflexes by bromides and chloral in the rectum.

Dr. J. F. Croston, of Haverhill, read a paper on

LOCAL BOARDS OF HEALTH.

This paper was discussed by Dr. Lovejoy, of Haverhill, Dr. Cogswell, of Haverhill, and Drs. Abbott and Chamberlain, of Lawrence. The concurrent opinion of the essayist and those who followed

him seemed to be that the present difficulty does not lie in the lack of sanitary laws, in this Commonwealth at least, but in the ignorance of the public, and the election of improper or inefficient health officers. The duty of health officers and practitioners alike should be to educate public opinion up to the point of desiring the enforcement of sanitary laws and the observance of sanitary rules.

On invitation of DR. F. H. ALLEN the Society adjourned to meet at his house in Haverhill next October.

QUARTERLY MEETING, held at Haverhill, October 12, 1887, at the house of DR. F. H. ALLEN. The meeting was called to order by DR. E. P. HURD.

Resolutions, reported by committees, were adopted on the deaths of Dr. E. S. Yates and Dr. A. B. Magee, of Lawrence.

DR. R. B. ROOT, of Georgetown, read a paper on

THE ANALGESIC EFFECTS OF ANTIPYRINE.

He said that the results of clinical experience have demonstrated that its analgesic effects are as pronounced as those of morphia. In the cases in which he has used it he is more and more convinced that it is destined to supersede, in a great degree, opium and its salts, as he finds that it answers most of the indications of morphia without its unpleasant effects. He then gave an account of its chemistry and its physiological action, ending with its hypodermic use in France for the relief of pain. It was used in this manner in acute rheumatism, gout, neuralgia, angina pectoris, and asthmatic paroxisms. Also in hepatic and renal colic, and in these it is peculiarly applicable, since morphia locks up the secretions and probably retards the efforts of nature to bring about a cure. Antipyrine, M. Germain Sée insists, is entirely free from the above objections, and meets equally well all requirements for the relief of pain. Ungar, of Bonn, was led to try antipyrine in hemicrania, from the similarity of its action to salicylate of sodium.

The following cases fully corroborated the above remarks:

CASE I. Mrs. M., aged forty-five, a long sufferer from periodical attacks of ordinary "sick headaches" of great severity. The reader had employed bromides, chloral, tr. gelsemium, ergot, etc., with absolutely no benefit. Hypodermics of morphia relieved the pain, but were followed as usual by nausea, and lassitude. Antipyrine in ten-grain doses was completely successful. Half an hour after the first dose the pain was greatly relieved, and two or three powders, given an hour apart, permitted the patient to resume her housework, whereas, prior to the antipyrine treatment, two days and sometimes a week elapsed before she was able to leave her bed. The trouble recurs with its usual frequency, but antipyrine, given in the prodromal stage, wards off an attack.

CASE II. Miss F. Dysmenorrhœa pain was relieved by two powders of ten grains each.

CASE III. Mrs. P., aged forty, has been for years a sufferer from acute attacks of asthma of great severity. She has found indifferent relief from iodide of potash, tr. of lobelia, morphia, etc. During one of her recent attacks she complained of severe pain extending through her left side, including arm and leg, together, with a want of sensation in the affected side. Antipyrine, in ten-grain doses, relieved the pain, and with the subsidence of pain the asthmatic spasm passed away. She begged for more powders, and has since then warded off several attacks, and is very sure that the powders are of great benefit.

CASE IV. Mrs. W. fell on the sidewalk in Malden last March, sustaining a severe concussion of the hip, but no fracture could be detected by her attending physicians. Four months later she came under reader's care. Still using crutches, and complained of severe grinding nocturnal pain, extending from hip down the leg to below the knee. She had used liniments, massage, galvanism, etc., with no benefit. The reader ordered ten grains of antipyrine one hour before retiring, and she thought the next day that she had slept better than for a month previously.

CASE V. Mrs. C., aged seventy-five, suffering with membranous enteritis, complained of severe pain through the bowels. No tenderness on pressure was found, the pain being probably of neuralgic nature. As she did not tolerate morphia eight grains of antipyrine were given, with directions to repeat in two hours. The next day she expressed surprise that relief had come with but one powder.

CASE VI. Mr. C., September 6th, had acute rheumatism, affecting wrist and shoulder. Wrist swollen and red. Pulse 120; temperature 103°. Prescribed salicylate of sodium. Next day no improvement. Had passed a restless night; complained of pain in cardiac region. No valvular lesion. Antipyrine, ten grains every three hours, was ordered. Next day (8th), relieved of pain, though the joints still remained swollen. On the 9th, temperature 99°; pulse 90; swelling and redness nearly gone, and from that time convalescence was fully established.

Fränkel speaks very highly of the value of antipyrine in thirty-four cases of rheumatism, but acknowledges that in certain cases it cannot replace the salicylate. The reader would be inclined in another case to place the patient on the salicylates, and give antipyrine as an analgesic in addition. In every case of hemicrania the effect has been the same, though not in the same degree in every case. Some have had the pain entirely relieved, while with others the effect has been less marked. In one case of paralysis agitans, accompanied with dull pain in the forearm, there was no effect from the drug. No bad effects were noted from the remedy.

DR. M. A. JEWETT, of Danvers Lunatic Hospital, read a paper on

ILLUSIONS, HALLUCINATIONS, AND DELUSIONS.

A vote of thanks was passed to Dr. Jewett, and his paper requested for publication. In the discussion which followed, Dr. LOVEJOY, of Haverhill, related two cases of melancholia. The PRESIDENT asked DR. Jewett what proportion of insanity was due to modern spiritualism. DR. JEWETT replied that he had compiled no statistics on that point, but that there are always a number of such cases in the Danvers Asylum.

The PRESIDENT made some general remarks on the use of liquid vaseline as an excipient for hypodermic injections. He also related a case where sulphur ointment having failed to cure scabies he ordered naphthaline in linseed oil, ten per cent. Three inunctions were sufficient to effect a complete cure.

DR. CHENEY had used agnine on a burn with brilliant result.

The Society adjourned to meet in Haverhill the first Wednesday in January.

After adjournment DR. F. H. ALLEN entertained the members most hospitably at dinner.

NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH.

SPECIAL meeting held at the Pavilion Hotel, Staten Island, November 15, 1887.

DR. ALFRED L. CARROLL, of New Brighton, made an address on

THE CLINICAL SIGNIFICANCE OF SPHYGMOGRAPHIC TRACINGS,

which was illustrated by a large number of examples.

He said that while the sphygmograph had not fulfilled all the sanguine promises which heralded its introduction, it was often of unquestionable clinical value. In cardiac disorders, it could never supersede the trained ear of the auscultator, but it might guide his examination, and, perhaps, modify his prognosis; while, in some instances, it might serve to localize an internal aneurism with a precision unattainable by any other means. It was well known that the intensity of a murmur at one of the valvular orifices was not invariably proportionate to the gravity of the lesion which induced it, and, except where the attending circumstances of aggravated cases aided our judgment, we were often uncertain in opinion. Here the sphygmograph might come to our relief with a mechanical measurement more accurate than our unassisted senses. Variations of vascular tension inappreciable by the most delicate and practised touch, degrees of obstruction or regurgitation unascertainable otherwise, were graphically recorded.

Too much, however, ought not to be expected from it; its tracings in a given form of disease were not identical and diacritic: they were only generically similar. It was not to be considered as a *means* of diagnosis, but, like other so-called "instruments of precision," as a frequently useful *aid* to diagnosis. Some years ago, in a paper published in the *New York Medical Journal*, he had endeavored to point out the extent and limitations of its utility; his present purpose was chiefly to call attention to a hitherto unnoticed source of misconception in regard to its registrations.

One of the principal drawbacks to the general recognition of the sphygmograph was the very ingenuity expended in its improvement, which had resulted in the invention and adoption of several different patterns of mechanism, each of which gave a tracing differing somewhat from those of the others with the same pulse. Hence, since the significance of every part of the hieroglyph depended on its conformity with or departure from a known normal standard, it was necessary for the more recondite indications of any sphygmogram to be told by what instrument it had been taken; and without this information and knowledge of the normal performance of the particular pattern of instrument employed, it was impossible to compare the results of different observations, and to profit by published records. To state an extreme example, the tracing of a healthy pulse by Pond's water sphygmograph would rouse a suspicion of cardiac hypertrophy, if supposed to have been made by Marey's or Mahomed's instrument, for the reason that in the former apparatus the needle-bearing lever, being detached from the motor-rod, was thrown loose by each pulsation, exaggerating the height of the systolic up-stroke, and of the repercussion and post-aortic waves; while, in the latter machines, the attached lever was withdrawn with the subsidence of the ventricular impulse, reducing the relative importance of these traits. An even greater exaggeration appeared to characterize the working of an exceedingly sensitive device invented by Mr. Edwards, of Buffalo, with which Dr. Carroll said he had had no personal experience, but which had been effectively employed by Dr. H. R. Hopkins, of that city, who has published numerous tracings taken with it. Dudgeon's sphygmograph, which, on account of its convenient portability, he had most used of late, gave a quite dissimilar normal tracing.

Less conspicuous, but still possibly misleading, variations existed between the tracings made by almost any two of the eight or nine patterns of sphygmographs in use by different observers, and although physical examination of the patient might correct misapprehensions in actual clinical work, the illustrations in many books and papers were thus robbed of much of their instructiveness. The rate of speed at which the slip was made to move would also materially modify the sphygmogram.

In view of these facts, and to establish sphygmography in the professional estimation which it merited, it was desirable, since it was not likely that any standard would be universally adopted, that all who published records of their work should not only mention the instrument which they employed, but give, in addition, for comparison, its tracing of a normal pulse.

Two of the tracings which Dr. Carroll exhibited were from patients suffering with exophthalmic goitre, and he said that he was not aware that any had ever been taken before in cases of this kind.

DR. J. W. S. GOULEY, of New York, said that Dr. Carroll had made a very strong plea for the clinical use of instruments of precision. He thought that the sphygmograph should be more generally employed, and should be in the hands of all practitioners.

DR. TRUAX, of New York, said that, on account of the uncertainty of the diagnosis indicated by the sphygmograph, he had given up the use of the instrument. Dr. Van Santvoord, who was attending physician to the institutions on Randall's Island, where there were hundreds of patients, and ample opportunity for testing it in all sorts of cases, had also found that, as a means of diagnosis, it was not to be relied upon.

DR. C. A. LEALE, of New York, said that after employing both Pond's and the French sphygmograph for a year, he gave up the use of the instrument, for the reason that the tracings compared so irregularly.

DR. GOULEY said that he thought the trouble was that physicians did not become sufficiently familiar with the use of such instruments, and, because they did not take the pains to do this, the results achieved were often unsatisfactory.

DR. W. C. WALSER, of Port Richmond, Staten Island, said that he had had the opportunity of seeing many of the cases, the sphygmographic tracings from which Dr. Carroll had exhibited, and that in all the instances in which autopsies had been made, the conditions noted corresponded with the results ob-

tained with the sphygmograph during life. The instrument, he thought, was also of much service in correcting our prognosis.

In closing the discussion, DR. CARROLL said that nearly all that had been said went to show that there was really some need of the remarks which he had made. In general, the sphygmograph was of service in correcting the diagnosis derived from other sources, as well as the prognosis. On account of the differences of various instruments, however, great care was necessary in its use. In the first place, it was of the utmost importance to study the tracings made by the normal pulse. In any departure from the normal, the difference in the sphygmographic tracing observed might be due either to central, medial, or peripheral modifications of the circulation. Hence, after the tracing had been made, it had to be interpreted, for the instrument did not make an absolute diagnosis. It did not make much difference which of the recognized instruments was used. Pond's water sphygmograph was exceedingly delicate, but was subject to some inconveniences. For general use, Dudgeon's was no doubt to be recommended as highly as any, on account of its portability and cheapness.

DR. WALSER read a paper on

CHRONIC PROGRESSIVE CARIES OF THE BONES OF THE FOOT, WITH CASES AND PRESENTATION OF A PATIENT.

In one of the two cases referred to, a female, the trouble had commenced at the age of ten months, and in the other, the patient presented, who was a male, at the age of twenty-two years. In both instances the origin of the trouble was very obscure, there being no syphilitic or other diathetic history, and the cases seemed to be of an almost unique character. The disease was apparently painless; in the case of the woman, in which it did not extend beyond the feet, completely so. In the man, who was presented, it also involved the tibia, and the only pain that he complained of was referred to this region.

DR. GOULEY said that the case presented appeared to be one of osteitis, with a certain amount of necrotic process, which had ended in metaplasis of the phalanges, the bone being changed to fibrous tissue. Some part of the metatarsus was still left.

DR. CARROLL said he would like to ask if there could be osteitis without pain. In the present case there was some pain, but in the other none. He wanted to know, also, what pathological condition preceded the metaplasis. The affection in these cases was one unknown to him.

DR. GOULEY said that, in his experience, he had not always found inflammation of the bone necessarily painful. In some instances which we had to recognize as inflammatory, all the usual phenomena belonging to the process of inflammation, as described in the books, were absent. While he had seen osteitis without pain, he had never known periostitis to be painless.

DR. S. H. BENTON, of Brooklyn, read a paper on

ANTITHERMICS IN NEURALGIC PAINS.

He said that his attention was first drawn to the analgesic properties of antipyrine in November, 1886, when he found that this agent, given in a temporary febrile condition, relieved headache in a case of two years' standing, in which a very large number of remedies had been tried in vain. After three months of treatment by antipyrine, given when indicated for pain, the headache, which was located in the right mastoid region, permanently disappeared. Soon afterwards, Dr. Benton tried antipyrine with excellent results in the case of his own wife. She was suffering from an attack of hemicrania, accompanied with a severe brachial neuralgia, from which she had frequently suffered for three or four years. Often, the pain in the arm and shoulder was so severe that hypodermic injections of morphia had to be used, which, at the best, gave only temporary relief, while the after-effects of the drug were so disagreeable that they were much dreaded. Since then, Dr. Benton had several times repeated the antipyrine in similar attacks, and always with gratifying results. While he could not say that she had been permanently relieved, it was true that the interval between the attacks had been much longer since he had begun the use of this agent, and she had not complained of the pain in the brachial plexus for two months. The dose of antipyrine employed in this case was twenty grains by the mouth.

The next case related was one of locomotor ataxia, in which eight grains of antifebrine were given every four hours, which gave more relief from pain than any other remedy which the patient, who was a lady forty-one years of age, had taken. Unfortunately, she did not live long enough to fairly test the utility of this class of remedies in her disease, and Dr. Benton said he was not sure that one would be justified in continuing the administration of such agents for an indefinite time, as would doubtless be necessary in the pains of locomotor ataxia. It was said, he continued, that the action of antifebrine and its analogues had a destructive action on the blood-corpuscles, as well as a tendency to produce fatty degeneration of the heart, and, if this were true, the continued use of these remedies would be pernicious medication. This theory, however, was new, and might be without foundation in fact. It was supposed that all these new antipyretics caused a reduction of temperature by their action on the thermic centres of the spinal cord; and, if this were true, their analgesic properties could doubtless also be ascribed to the same action. In the case of a lady otherwise in good health, who was subject to hysterical attacks, which were always followed by great præcordial distress, intercostal neuralgia, palpitation of the heart, and insomnia, antipyrine proved very satisfactory. The attacks were brought on by any kind of excitement, and were sure to recur, at least, once in every fortnight. For the last two months, she had been taking a teaspoonful of a mixture containing twenty grains of antipyrine to the fluid drachm every two or four hours, as required, whenever she began to feel nervous; and, during that time, she had not a single attack of hysteria or any of her old pains, and had been entirely relieved of insomnia. The use of the drug did not seem to give rise to any disagreeable symptoms.

His experience with antipyrine and antifebrine as analgesics, he said, had not been extensive, but he had used them enough to be convinced that they were of service in many cases; and he thought that if other observers obtained the good results from their use in this capacity as Dr. Lloyd had reported at the last meeting of the Kings County Medical Association, we had added to our armamentarium a class of remedies of inestimable worth. The disagreeable effects from the administration of these medicines in his own cases had been so infinitesimal, that they were not worth

noting. He said he gave them by the mouth most often, but had also given them hypodermically with satisfaction. Some writers had stated that the subcutaneous method of administration gave great distress at the point of insertion, but he had not observed this. It seemed to him that if the needle were inserted deeply, and the parts rolled freely under the thumb immediately after the withdrawal of the syringe, little or no pain would be experienced.

While in some cases, however, the administration of antipyretics as analgesics had seemed to have a desirable effect, and their superiority over other remedies used was demonstrated, he had given antipyrine and antifebrine in many more cases of painful troubles where he got no observable effect whatever. He thought it was only fair to give both sides of a question, as there must be rendered an unfavorable, as well as a favorable, report in regard to the action of all remedies. In three cases of sciatica of long standing, the patients derived no benefit whatever from antipyrine or antifebrine. In one other case, the pain seemed to be modified. In six cases of hemicrania at the menstrual period, very little, if any, effect was observed. In two cases of facial neuralgia no benefit was derived, and in one case of dysmenorrhœa in a young lady, there was the same negative result. In two cases of tabes dorsalis, some comfort was thought to be derived from their use. While, therefore, there was no doubt in his mind that, from his limited experience, antipyretics used as analgesics were of great service, and would grow in favor in the estimation of the profession, he thought that we must not expect too much from them. In many instances, they would disappoint us; but the same was true of quinine and many other of our standard drugs.

DR. P. BRYNBERG PORTER, of New York, said that he was of the same opinion as the writer of the paper, that while the class of agents referred to were no doubt useful in many instances of painful affections, many others would be found in which they were totally inefficient, and that we could not as yet dispense altogether with opium. In a case of neuralgic dysmenorrhœa in which he had used antipyrine hypodermically, no effect whatever was produced upon the pain, and he had been obliged to resort to morphia, as usual. The patient had complained of considerable more pain at the seat of insertion than when morphia was used, but this was of only temporary duration.

DR. JOHN P. GARRISH, of New York, said that he should consider it dangerous to give twenty grains of antipyrine every two hours, as Dr. Benton had reported doing in one of his cases.

DR. WALSER said that, being subject to migraine himself, he had tried ten grains of antipyrine every half-hour for the relief of an attack, but found that it had not the slighest remedial effect.

DR. T. W. ROCHESTER, of Brooklyn, said that he had observed that the same effects were not now reported from the use of antipyrine as at first, such as excessive sweating; and, as it was a patented article, he thought that possibly morphia might of late have been introduced into its composition, and the fact kept secret. There was another point that he had noticed in the reports of painful affections relieved by the use of antipyretics, and that was that the cases were nearly all in females, which he regarded as a somewhat significant fact.

The PRESIDENT, DR. EDWIN BARNES, of Dutchess County, said that in one typical case of migraine of exceptional severity under his charge, a single dose of twenty grains of antipyrine completely arrested the attack, if taken when the headache was just coming on.

DR. E. R. SQUIBB, of Brooklyn, said that no one knew the exact composition of these patented antipyretics. All these agents had been discovered in searching for substitutes for quinine, and they were all somewhat similar in composition, being built up on a radical of quinine.

DR. WILLIAM MCCOLLOM, of Brooklyn, thought it strange that the earlier writers on antipyrine and antifebrine said nothing about their hypnotic and analgesic properties. In his opinion, their position as remedies of this class could not as yet be positively determined.

DR. TRUAX said that in one case of dysmenorrhœa under his care, fifteen grains of antipyrine, given three times a day, seemed to have a very good effect; but, in several other similar cases in which he had tried it, it was of no use whatever.

DR. CARROLL gave a demonstration of a

DRESSING FOR GREENSTICK FRACTURE OF THE CLAVICLE.

The pressure over the fragment necessary for the successful treatment of this variety of fracture, was secured by Dr. Carroll by a compress held in position by the simple turns of an ordinary roller bandage passed in a figure-of-eight under the axillæ and over the shoulder near the seat of fracture.

DR. LEALE said he thought the dressing of Dr. Carroll a decided advance, since many good surgeons recommended converting a greenstick fracture of the clavicle into a complete one, in order to treat it more advantageously. It was all the more admirable on account of its extreme simplicity.

DR. ROCHESTER said that he had been in the habit of resorting to the plan just mentioned by Dr. Leale, but that in the future he would certainly use Dr. Carroll's dressing instead.

THE PRESIDENT presented a paper on

THE INDIVIDUALITY OF DISEASE,

which, on account of the lateness of the hour, was read simply by title. The concluding portion of the meeting was devoted to

MEMORIAL EXERCISES

in honor of three distinguished deceased Fellows, Drs. Alonzo Clark, James C. Hutchinson, and Jared Linsly, and biographical and eulogistic papers were read by Drs. John Shrady, S. T. Hubbard, Ellsworth Eliot, and J. W. S. Gouley.

— Dr. Zaldivar, formerly president of one of the South American republics, and also a practising ophthalmic surgeon, recently, while on a visit to Spain, performed several operations in the clinic of Dr Osio, before many of the leading medical men of Madrid.

— A congress of physicians and veterinaries having for its object the scientific study of tuberculosis in man and in the other animals, will meet at Paris in July, 1888, under the presidency of Professor Chauveau.

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THE PARASITIC ORIGIN OF CANCER.

THE success which has attended the investigation of the bacterial origin of tuberculosis, leprosy, glanders, and other diseases, and the progress made in the same direction both in hydrophobia and syphilis, has greatly strengthened the hope that light might also be shed upon the almost impenetrable darkness which still surrounds our knowledge of the etiology of cancer. A disease which affects so large a number of individuals, and for which no remedy beyond the uncertain resort to the knife has been found, and in face of which preventive medicine seems to be powerless, is one which the public may well demand that the medical profession should not fail to investigate anew in the light of modern science.

The attitude of so prominent a member of the profession as Sir James Paget towards this question has for many years directed the attention of English observers to the etiology of this disease; and many interesting facts have been elucidated, such as the predilection for certain localities, the greater frequency of the disease in certain countries, and the possibility of contagion in exceptional cases. In a recent address, he dwells upon the many points of resemblance between the class of diseases to which we have alluded and cancer. A tuberculous mass or a syphilitic gumma has, he thinks, more of the general character of a tumor than has a rodent ulcer or a cancer of the lip or tongue. The tendency of these to affect distant parts of the body bears a more striking resemblance still to the life-history of cancer.

It is probable therefore, that, as in these diseases there is a specific morbid material in the blood, a similar one exists in cancerous diseases. Sir James takes the ground, which, however, would hardly be accepted by the majority to-day, that the virus of cancer is diffused throughout the economy, but localizes itself at certain points of irritation, or in certain tissues predestined to afford it a favorable soil.

The report on cultivation-experiments with malignant new growths by Messrs. Ballance and Shattock to the Scientific Grants Committee of the British Medical Association is of special interest, as giving the impression left upon the minds of observers who have subjected cancer to the most approved scientific tests. They say: "Although we have established the fact by these experiments that no micro-organisms admit of being cultivated from malignant new growths on any of the chief media at present in general use, we hold, nevertheless, that the parasitic theory, in some form or other, is the most probable of any of those yet advanced." It should be remembered that in those diseases in which the micro-parasite has been discovered, the new formations are inflammatory in nature. They belong to the class of affections designated by Virchow as granulomata. On the other hand, in cancer the epithelial cell is evidently the seat of the microbe, if such exist. We have here an entirely different soil, and it seems probable that essentially different methods of culture will have to be devised to develop the organism.

Possibly the secret of the failure of Messrs. Ballance and Shattock may be found in the recent telegraphic reports from Berlin, in which it is stated that Dr. Scheurlen has succeeded in isolating a bacillus which he had "cultivated according to the usual methods." His investigations were however said to be much impeded by the long period of incubation, many months being necessary to cultivate the parasite. The English observers did, indeed, find micrococci and bacilli, but such growths were also found in the cultures of normal tissues. The general verdict of the physicians of Berlin upon Dr. Scheurlen's observations appears to have been unfavorable. A report, however, states that "in twenty cases of bacillus found between cancer-cells, specimens were cultivated in the serum taken from human cases of pleurisy, and were injected into six dogs. The injection yielded, in two cases, tumors which proved to contain the same bacillus."

An announcement of this nature coming from Berlin at the present time, when the public are greatly interested in the question of cure of cancer, is, of course, to be received with great reserve.

It seems, at least, highly probable that the solution of this question is to be sought for by some new method of culture or inoculation differing materially from those introduced by Koch and Pasteur, and now in general use.

Even supposing a specific microbe to have been discovered for cancer, the problem of a cure, or even of prevention, may be still as difficult as in the case of tuberculosis. The hope of Sir James Paget that we may find a medicine as efficient against cancer as mercury and quinine are against syphilis and malaria, implies a belief in a more close relationship of these diseases than we are, perhaps, prepared to admit. The frequently expressed opinion of so high an authority, and the lesson which many recent discoveries teach, leads us to feel that there is ground for hope in the future, and that some clew may, at least, be found by which knowledge may be gained to enable us to mitigate the terrors of so formidable a disease.

WORD-BLINDNESS.

IN his "Treatise on Practical Medicine" published in 1838, Gendrin speaks of patients "who find it impossible to read, but who can write by a sort of memory of the movements of the fingers necessary to trace the words; when once the letter is written, the patient is no longer able to recognize it." An almost identical description is given by Trousseau, in a clinical lecture, of a form of aphasia first described and named as a distinct species by Kussmaul in 1877, and called by him *word-blindness* (Wortblindheit).

Charcot, in his last volume on "Diseases of the Nervous System,"[1] sums up the details of sixteen observations, of which one had been carefully studied by himself; these cases have all appeared in the medical journals the past few years. The following, in substance, are Charcot's conclusions: In general, the onset of this form of aphasia has been sudden, and attended, at first, with a certain degree of right hemiplegia, which has soon disappeared. During the first few days there is almost always a little motor aphasia, which vanishes later, the word-blindness alone remaining. There are, however, exceptions to this, and, in a remarkable case, originally reported by Gueneau de Mussy in Galezowski's *Journal Ophthalmologique*, the word-blindness made its appearance isolated from all other complications of a paralytic kind. It is true, however, that a right-sided hemiplegia soon followed.[2]

Visual troubles have been somewhat vaguely mentioned in connection with a certain number of cases. The patient whose case was reported by Westphal (*Zeitschrift für Ethnologie*, 1874), and the patient who was the subject of Charcot's description,[3] had well-marked hemianopsia. So, also, with Gueneau de Mussy's patient.

A peculiarity of typical cases is that when the subjects of word-blindness make efforts to read a book or manuscript, they are obliged to trace out the letters and words with their fingers before they can obtain any understanding of what they are endeavoring to read. The ideas imparted by these movements of the fingers appear to be indispensable to give value and precision to the vague motions furnished by the visual images; in other words, the patient can only read by writing. In Charcot's patient, these digital movements, which were so necessary to supplement the sight in obtaining the recognition of words, were instinctive; in no other way, in fact, could the visual memories be recovered.

Charcot gives the results of three autopsies: one pertaining to a patient of M. Déjerine, another to a patient of M. Chauffard, the third to a patient of MM. Heilly and Chantémesse. These three observations perfectly agree in one point: the predominant lesion was found to be in the inferior parietal lobule, with or without participation of the angular gyrus and the first temporal convolution. In cases in which there was lesion of the latter convolution, the verbal blindness was found complicated with word-deafness. Charcot finds reason to conclude that the lesion on which verbal blindness depends has for its seat the inferior parietal lobule, with or without participation of the angular gyrus. The existence of the lesion in those parts of the cortex which cerebral physiologists have, with very general unanimity, fixed upon as the visual perceptive centre, easily explains the hemianopsia which characterized several of the cases. As for the precise alteration by which verbal blindness is determined, we are still dependent on conjecture, although there is reason to believe that the primary vascular lesion is generally a plugging (thrombosis or embolism) of the Sylvian artery, which furnishes branches to Broca's convolution, the seat of motor aphasia, and to the regions where verbal blindness and hemianopsia seem to have their location. The lesion of these arterial branches is the primary fact, and the atrophy or softening of the cerebral tissue the consequence.

Gueneau de Mussy, who had an opportunity of studying a remarkable case, which is treated in his usual thorough and philosophical manner in the last volume which he published, proposed to substitute for the name *word-blindness* (*cécité verbale*), and the appellation *aphasic amblyopia*, which Galezowski had bestowed on this affection, the term *asémiognosie optique* (optical asemiognosia); that is, absence of the knowledge of signs. This term seemed to De Mussy more exact than that of *word-blindness*, for there is really no *blindness* present in the ordinary acceptation of the word, and the patient has lost the comprehension not only of words, but of letters. "In adding to the word *asemiognosia* the adjectives of visual or optic, acoustic or tactile, we may," says this writer, "express the different varieties of this intellectual trouble, or their combination." The term is a good one, though too cumbersome, and is not likely to supplant that originally proposed by Kussmaul.

To conclude, all studies thus far made in this department of cerebral physiology testify in favor of the division of the memory into several forms, which correspond to the impressions furnished by the different senses; "and it seems very probable that each of these forms is in relation with a distinct department of the cerebral substance which is the material condition of the formation of these sensorial memories, of their conservation, and of their transmission without."

[1] Leçons sur les Maladies du Système Nerveux, T. III. 1887.
[2] Gueneau de Mussy. Clinique Medicale, T. IV, p. 860.
[3] Loc. cit. pp. 152, 175.

MEDICAL NOTES.

— The daily papers report that a passenger by the *Alesia*, after being dismissed from quarantine in New York, went to his destination in New Bedford, Pa., where his wife washed and "disinfected" his clothing. She soon sickened and died, of a peculiar disease not diagnosticated. The undertaker who buried her was taken sick soon after. The husband, himself, died in course of a day or two, and his son and daughter, to-

gether with some other inhabitants of the place, are now sick in a singular way. The nature of the symptoms is not reported, and the physicians are said to be in doubt as to the character of the affection.

— Prof. Celli has been made Professor Extraordinary of Experimental Hygiene at Rome.

— The *Medical Record* says that the total annual expenses of the twenty-eight hospitals in New York city are $740,722. The total income from invested funds is $142,142; from pay patients, $163,808.69; from the city, $56,355. This leaves a deficit of about $300,000, to be made up by private subscriptions and by the hospital collections. There are annually treated 13,926 patients, of whom only 25 per cent. pay. In out-patient departments there were treated 119,124 patients. These figures do not include the city hospitals, Bellevue and Charity, or the large independent dispensaries. The addition of these easily doubles the number of medical paupers of the city, bringing the total up to over a quarter of a million.

BOSTON.

— A case came up in the superior criminal court, December 6th, before Judge Bacon, on the interpretation of the Sunday law passed at the last session of the Legislature, as to the meaning of the word "drug," and what it includes. An apothecary was tried for a violation of the law. It appeared in the evidence that the violation consisted in selling a cigar. Counsel for the defendant claimed that a cigar was a drug, and came within the section of the law relating to drugs and medicines. In support of his view of the case, he cited various authorities, and quoted freely from Worcester and Webster as to the definition of tobacco. In his instructions to the jury, the judge said if they found that tobacco was a drug or medicine, then they must acquit; but if they found that it was not a drug, then the defendant would be guilty. The jury, after being out a short time, returned a verdict of not guilty.

— The Boston Medical Library Association has authorized its Executive Committee to purchase land on St. Botolph St., on which at some time in the future to erect a library building. In order to secure the new lot it has been necessary to place a mortgage upon the newly purchased land, and also upon the present library building.

— A slight exacerbation in the number of cases of scarlet fever took place last week, coincidently with the warm weather of the last days of November. The serious prevalence of the disease noted a few weeks before was not, however, by any means reproduced. The cases reported for the week were 72, with 15 deaths, as against 64, with 17 deaths, the previous week.

NEW YORK.

— The beautiful building of the New York Cancer Hospital, on Eighth Avenue, between 105th and 106th Streets, was formally opened on December 6th, when addresses were made by John E. Parsons, Esq., President of the Board of Trustees, the Rev. John Hall, D.D., Drs. Fordyce Barber, and William H. Draper; and the music was furnished by the choir of St. Thomas Church.

— Dr. Charles H. Bradley, formerly of Chicago, where he was for a time under treatment in an insane asylum, who is a victim of the cocaine habit, has been arrested for petty thefts from physicians, and committed to the charge of the Commissioners of Charities and Correction.

—The hospital-ship *Washington*, which has been stationed in Gravesend Bay, has been brought up to the city, and it is said that the New York Quarantine is now entirely free from all contagious diseases.

— A man died of hydrophobia at the Brooklyn Hospital on November 29th, having been bitten by a rabid dog in September last. In this case the convulsions were controlled to a considerable extent by curare, given by hydrophic injection.

— Dr. William T. Lusk has recently performed another successful Cæsarian section, by the modified Sänger method, at Bellevue Hospital, the second since the beginning of the autumn. The infant unfortunately died of tetanus, but at last accounts the mother was doing admirably.

Miscellany.

POISONING FROM ANTIFEBRIN.

A CORRESPONDENT of the *Therapeutic Gazette*, Dr. F. M. Bauer, reports that he has several times witnessed cyanosis produced in female patients by 3 or 4½ grain doses of antifebrin. He has not seen it act so in men. The same journal quotes from the *Deutsche Medicinal Zeitung*, a case reported by Dr. Goll as the only one to his knowledge before the profession of antifebrin poisoning. Unfortunately in the latter case the amount of the drug used is not clearly indicated.

"Mrs. D., who suffered from nervous headache, advised by an article in the *Berliner Lokalanzeiger* purchased twenty-five pfennigs' (about six cents) worth of antifebrin, and put the entire quantity in two portions, which she drank in close succession.

"In about three hours vomiting began, and a cold sweat broke out all over the body, and the patient sank into a deep faint.

"Several hours subsequently I was called in, and found the face, ears, chest, hands, and feet as cold as ice, and covered with a cold sweat; the abdomen was warm but moist; the face deathly pale; eyelids closed, but when spoken to she would open her eyes; pupils moderately dilated, and showing but little sensitiveness to the light; heart beating violently; respiration rapid; pain in abdomen; nausea with occasional retching, but no vomiting.

"The nervous system was in a most strange condition, for, although the woman lay perfectly unconscious of her surroundings, yet she was able to answer to all my questions promptly and sensibly, although in a weak voice.

"She said she felt as though she were continually falling and that she felt perfectly numb.

"In the morning, after the continued use of strong excitants during the night, consciousness returned, accompanied by a most profuse perspiration. At nine o'clock the temperature was normal; the pulse was still up to 108. The whole abdomen was painful and sore. Strange to say, the patient remembered nothing of her condition the night before, and did not even recall the presence of the doctor. This seems to show that antifebrin produces an effect on the nerves similar to an hypnotic state, in which the patient can be made to answer questions and obey commands without having any self-consciousness.

"The next day the patient showed a marked loss of appetite; the face was flushed, and she complained of a severe headache. The symptoms of the poisoning had disappeared."

SIR ANDREW CLARK ON THE CAUSES OF CHLOROSIS.

SIR ANDREW CLARK recently read a paper before the Medical Society of London, published in the *Lancet* of November 19th, in which he contends that the anæmia or chlorosis of girls, arising in nervous constitutions with imperfectly developed sexual organs, is caused for the most part, and in the first instance, by feculent retention and its consequences, and that the right as well as speedily successful treatment lies in the enforcement of a sound hygiene, the administration of ferruginous cathartics, and in the provision after cure for a daily and, as far as possible, a natural relief to the bowels.

Fæcal anæmia, is the name he gives to this condition, and he claims that disorders of the generative system have received much more attention than they are entitled to as causes of the disease. He says: "In the period between the advent of menstruation and the consummation of womanhood there arise physical, mental and moral changes which greatly influence the girl's habits of life and thought. She becomes self-conscious, and enters into new relations with those whom she meets. She thinks of her appearance and tightens her waist. Afraid of getting fat, she stints herself in food, and eats of only dainty things. With her sense of modesty deepened, she is shy of being seen about the closet. Unprompted by nature, and perhaps disdainful of such affairs, she omits the daily solicitations of the bowels. And so at last it happens, through the compressed waist, the insufficient food, and the disregarded desire or the neglected trouble, that the bowels become either obstructed, confined or inadequately relieved. In either case the fæces accumulate, are retained, and not only undergo changes in themselves, but provoke changes in the mucous membrane with which they are in contact. As one of the results of those changes, both chemical and biological, there are produced new substances, ptomaines and leucomaines, which are injurious to the organism, and which, absorbed into the blood, originate in girls of a nervous type of organization those alterations of the constitution of the blood which constitute the true pathogeny of this anæmia of girls.

"Now, it is necessary to ask if this alleged cause of the malady is adequate to the explanation of it? Well, it has been shown by Bouchard, in his lectures on Self-intoxication in Disease, that the poisonous activity of human fæces, even in healthy men is very great. And he concludes that there are formed throughout the intestines of an adult in twenty-four hours a quantity of alkaloids, which, if excretion were stopped and all were absorbed, would be sufficient to destroy life. It is, then, impossible to doubt that poisonous alkaloids are formed in the alimentary canal; that when excretion is seriously diminished they must be in some degree absorbed; and that, mixing with the blood and entering the tissues, they must produce some sort of injurious effects determined by the rate of absorption and the amount absorbed."

ACTINOMYCOSIS IN A WOMAN.

THE *British Medical Journal*, for November 19th, contains the report of a case of this affliction originally published by Dr. Hoeffner in the *Gazette Medicale de Strasbourg*. The patient was a woman, aged sixty, who suffered in November, 1884, and January, 1885, with pains in the right loins resembling renal-colic. Each attack was followed by urticaria and diabetes insipidus. In April, 1885, the attacks grew longer and more frequent; much muco-pus was passed with the urine, and there was great pain and tenderness in the region of the right kidney. In November, the attacks recurred, but this time resembled gall-stone colic; the pain radiated from the liver to the right shoulder. In January, 1886, a swelling resembling an abscess, formed in the right hypochondrium, and was opened by Professor Boeckel in February. Instead of pus, serum with fungous tissue came away; it was sprinkled with grass-green bodies, the size of a grain of wheat. No communication could be found between the incised structure and the abdominal cavity. The wound was scraped, disinfected, and dressed with iodoform gauze. The green bodies were examined and found to be actinomycetes. The wound slowly became cleaner; its edges remained red and indurated, and not very tender. The scanty pus which exuded was mixed with the bright green bodies. There were indurated tracts in the neighborhood; no antiseptics produced any effect. At this stage the general condition was good; the urine contained muco-pus, but the fungus could not be found in it. The wound at length became a fistulous track. In June, 1886, pleuritic effusion set in in the right side of the thorax inferiorly, with rise of temperature, On June 27th, fits of coughing brought up fœtid muco-pus. In August, the patient became very ill with ascites, anasarca, jaundice, and a bedsore, yet she got stronger again till spring, 1887, An abscess then formed in the inner side of the right scapula. On incision, thick pus and actinomycetes escaped in quantities; a fistulous track was left which, alternately with the track in the right hypochondrium, discharged the parasite. The former track on one occasion communicated with the pulmonary fistula, then the green bodies were found in the sputa; they were not so green as those escaping from the other cavities. The patient died of exhaustion on July 30, 1887. The disease thus lasted for two years and a half. A large abscess was found in the right lobe of the liver, involving adjacent viscera. It was full of the fungus; it communicated with the lumbar fistula, which was itself in communication, under a wide area of upheaved subcutaneous and

muscular tissue, with the fistula in the thorax. The right suprarenal capsule adherent to the liver was infected with the fungus, but the kidney, including its capsule, was free from infection, though congested. The diaghragm and other organs were healthy. The fungus appeared to have begun its ravages from the right transverse colon, where it touches the liver. The fungus had migrated towards the surface, through the thoracic parietes, forming the first abscess; then it had made its way between the skin and the muscles towards the scapula, perforated an intercostal space, and finally entered the lung. The green coloration of the fungus appears to be peculiar to cases where the abscess is hepatic; in other cases the masses were white or yellow, and even in this patient those which were coughed up from the lung were much less green than those in the hepatic abscess.

THE PUERPERAL INVOLUTION OF THE UTERUS.

THE *American Journal of Obstetrics*, November, 1887, contains a review of an elaborate paper by Th. B. Hausen, (*Ztschrft. für Geb. u. Gyn. XIII*, 1). After an analysis of the results obtained by others from external and internal measurements undertaken during the puerperium, the author describes in detail his own experiments and the method after which they were undertaken. These measurements were one thousand and forty-eight in number, performed on two hundred puerperæ, on the tenth day post partum, on the fifteenth day, then every week up to the end of two months, and every two weeks to the expiration of twelve weeks after labor. The results are tabulated under the respective headings, Primiparæ; Multiparæ; Miscarriages; Premature Labors; Non-nursing Women; Complicated Labors; Complicated Puerperium. The conclusions may be summarized as follows: (1) In twenty-five instances (twelve primiparæ, thirteen multiparæ) after normal labor at term, the progress of involution was noted beyond eight weeks, and in one-half involution was then complete, whilst in the remainder this did not occur till the third month. No special difference was found to obtain as regards the progress of involution in primiparæ and in multiparæ after the tenth day. Involution seemed to progress less rapidly after premature labor than after labor at term. In the normal puerperium, after normal labor at term, the uterine cavity remained larger and the process of involution was more protracted in women who did not nurse than in those who did. In the normal puerperium after twin births, or after those complicated by much hæmorrhage, involution was somewhat slower than after uncomplicated labor; the difference was especially marked on the tenth and fifteenth day. Retention of the secundines seems to be a cause of protracted involution.

Hausen also made a number of measurements for the purpose of determining whether any deductions of value from a medico-legal standpoint could be drawn. In one hundred and sixty-three puerparæ, fifteen days after delivery near term, in two only was the measurement less than nine centimetres; three weeks after delivery, of one hundred and thirty-five cases, in two only was the measurement less than eight centimetres. The conclusion is thence drawn that, if on careful measurement the uterine cavity measures much below eight centimetres, the chances are very slight that a child has been born within three weeks; and if the measurement is not at least nine centimetres, then the chances are exceptionally slight that delivery has occurred within two weeks. Generally then, measurement by the sound two weeks after delivery at term, or within six weeks of term, will give us positive indication as to delivery having occurred; after the third week, the data obtainable are lacking in value as positive evidence.

The last question considered, is the form and position of the uterus during involution. The results of examinations were: On the tenth day, he found anteflexion, 95 per cent.; pure anteversion, one case; retrodeviation, no case; on the fifteenth day, anteflexion, 85 per cent.; normal position, 11 per cent.; retrodeviation, 3.4 per cent.; six weeks after delivery, anteflexion, 75.6 per cent.; retrodeviation, 5.5 per cent.; normal position, 50.9 per cent.

Correspondence.

THE "DOCTOR'S WIFE." A BACHELOR'S WAIL.

MR. EDITOR,—Your remarks in the last issue of your valuable JOURNAL upon the Doctor's Wife, call forth from my heart certain personal reminisences not unmixed with pain. "Pins," says the infant prodigy "save a great many people's lives because they don't swallow them." So, doctor's wives ruin the prospects of hundreds of us young fellows, because we don't have them. Shall I tell you my sad fate?

Two years ago on the death of old Doctor Gamboge, two of us, as is the custom, moved into town to take his place. My friend and classmate, Dr. Benedick (alas, no longer my friend!) and I, each arrived on the ground about half an hour after the old doctor had breathed his last. We were pretty well-matched in what is properly but erroneously supposed to be the preparation for practice, and we entered the race neck and neck. We were, as Virgil says, or might have said, *Et secare pares, et exercere parati.*

Well, we took lodgings on opposite sides of the main street, and the fight began. As fast as I scored a point Benedick scored another, and somehow his points always seemed to count for a little more than mine. I went to the brick church, which was larger, and he went to the wooden meeting-house, which had the most old families. My chimney blew down and I got it in for a five-liner in the local paper, but the next week one corner of his house took fire and he got it in for ten lines. I put on my door an old-fashioned knocker and he put in an electric bell. The country people knew all about knockers, but the electric bell was something they couldn't quite grasp (figuratively I mean; they grasped it often enough literally).

Finally I fell into the common pit, and bought a horse long before I needed it or could afford it. The first time I passed Benedick on the street, he smiled in an unpleasant way and said, "Oho, I've got onto a racket worth two of that," and the next thing I knew he was married.

His wife distanced my horse in no time. She went to the sewing-circle and every good patient he ever had was brought into the conversation in some way. Even if he was only called into a house to see the cook, the women all learned that he had been there, though they didn't know (for I "mustn't talk about my husband's affairs,") who the patient was.

Then, when the wedding-calls were returned, into every house went some mysterious hint, not too definite, of Benedick's wonderful success. Were there children in the family: "The Doctor is so fond of children, and they all

take to him so quickly!" Had any of the household met with an accident: "The Doctor is very fond of surgery." Were any little dresses in making: "My husband is such a good baby-doctor. Whatever should I do if it weren't for him!"

She always found out who the family physician was, and this information, of course, was the first and most important step towards ousting him. If a new-comer moved into town, the grocer and butcher were hardly more prompt in leaving their cards at the back door, than Madame in presenting *her* business-card at the front door. If little Susy Simmons swallowed a pin, and the horrified mother was running amuck for the nearest doctor she could find, she was beguiled in by Mrs. Benedick to wait for her doctor, whom she "expected in every minute." No emergency cases ever would wait for me to come home, and whenever a patient eager for immediate healing turned away from my door, he was invariably gathered in by the siren across the way, who either entertained him till her partner's return, or else got his name booked for a visit.

They were two, or more than two, to my one. It takes two men to run the Punch and Judy show — one to work the figures, the other to do the talking, get in the crowd, and take up the collection. I had to run my show alone, and didn't take up much money.

I wonder if King Lemuel's mother did not have such a doctor's wife in mind when she told him the memorable story of the virtuous woman. There are certain internal evidences that she did. "She perceiveth that her merchandise is good. *Her candle goeth not out by night.* . . . Her husband is known in the gates, where he sitteth among the elders of the land." By the way, Mrs. Benedick has already got her husband onto the School-Committee, and, I hear, is thinking of sending him to the Legislature next year.

There is nothing left for me but to move on, and try it somewhere else. *Væ victis.* I fondly thought when I spent my money for a horse and carriage that I held the "right bower"; but I have found that Benedick has the "joker." And now, before trying my fortune in a new field, I must have, cost what it may, a wife. Bitter experience, as well as the tenor of your editorial, convince me of it.

I am, sir, yours in search of a wife, CŒLEBS, M.D.

SKIN GRAFTING AND SEVERED DIGITS.

NAVY YARD, CHARLESTOWN, November 29, 1887.

MR. EDITOR,— I beg leave to submit the following (from Corneil and Ranvier's "Histologie Pathologique") concerning skin-grafting. "The presence of epidermic cells, transplanted to the middle of a granulating sore of the skin, determines an active reproduction of epithelium all about the graft. The epidermic cells seem to act not by multiplying themselves but by a kind of *action de présence* which leads, as it were, the evolution of the surrounding embryonic cells in a definite direction; for the graft itself gives no evidence of activity, and is soon destroyed in midst of the new epithelial tissue the appearance of which it has determined."

This may be of interest, also, to those who believe that bits of fingers, phalanges, etc., after complete removal, wholly severed from nervo-vascular connection, may continue or resume vital action. Very respectfully,

F. B. STEPHENSON, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 26, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	625	226	19.04	19.84	1.44	10.05	2.88
Philadelphia	993,801	—	—	—	—	—	—	—
Brooklyn	745,108	319	108	21.70	15.19	3.41	14.95	.93
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	143	51	16.80	9.80	3.50	5.60	.70
Boston	400,000	189	56	18.02	15.37	1.59	4.24	9.01
New Orleans	242,750	115	29	13.05	8.69	.87	5.22	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	68	18	10.29	8.82	4.41	1.47	1.47
Pittsburgh	210,000	76	31	19.80	18.48	6.60	9.24	—
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	56	31	14.32	5.37	3.58	1.79	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	45,000	14	3	14.28	21.52	—	7.14	—
Charleston	60,145	31	10	3.23	3.23	—	3.23	—
Portland	40,000	18	5	22.22	5.55	—	11.11	5.55
Worcester	68,383	20	8	5.00	30.00	—	—	—
Lowell	64,051	23	7	13.05	17.40	—	—	—
Cambridge	59,660	28	9	20.85	10.71	10.74	16.11	—
Fall River	56,863	26	9	11.55	—	3.85	—	—
Lynn	45,861	23	1	18.40	13.05	—	13.05	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
New Bedford	33,393	8	3	37.50	25.00	—	25.00	12.50
Somerville	29,992	11	3	36.36	36.36	—	—	36.36
Salem	28,084	12	5	16.66	25.00	—	16.66	—
Holyoke	27,894	7	4	—	14.28	—	—	—
Chelsea	25,709	10	2	20.00	—	—	—	10.00
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	15	6	46.62	20.00	20.00	13.33	—
Gloucester	21,713	10	3	10.00	20.00	—	10.00	—
Brockton	20,783	5	0	—	—	—	—	—
Newton	19,759	7	3	—	14.28	—	—	—
Malden	16,407	9	4	11.11	22.22	11.11	—	—
Fitchburg	15,375	8	2	—	12.50	—	—	—
Waltham	14,609	6	2	33.33	16.66	—	33.33	—
Newburyport	13,716	6	1	33.33	—	16.66	16.66	—
Northampton	12,896	1	0	—	—	—	—	—

Deaths reported 1,889: under five years of age 640; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 341, acute lung diseases 290, consumption 268, diphtheria and croup, 165, scarlet fever 47, typhoid fever 47, diarrhœal diseases 30, malarial fever 14, measles nine, cerebro-spinal meningitis nine, whooping-cough seven, erysipelas seven, puerperal fever six. From diarrhœal diseases, New York eight, Boston five, New Orleans four, Baltimore three, Brooklyn, Pittsburgh, Lowell, and Haverhill two each, Milwaukee and Fall River one each. From malarial fever, Brooklyn six, New York and New Orleans three each, Baltimore two. From measles, New York six, Baltimore three. From cerebro-spinal meningitis, New York four, Baltimore, Milwaukee, Worcester, Lowell, and Fall River one each. From whooping-cough, Milwaukee three, Brooklyn two, New York and Boston one each. From erysipelas, New York three, Brooklyn, Baltimore, District of Columbia, and Nashville one each. From puerperal fever, Portland, New Orleans, Pittsburg, District of Columbia, Lynn, and Chelsea one each. Cases reported in Milwaukee, scarlet fever 31, diphtheria nine.

In 23 cities and towns of Massachusetts with an estimated population of 1,078,330, the total death-rate for the week was 21.41 against 21.90 and 20.85 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending November 12th, the death-rate was 20.0. Deaths reported 3,548: infants under one year of age 768; acute diseases of the respiratory organs (London) 438, scarlet fever 111, measles 82, whooping-cough 58, fever 53, diphtheria 43, diarrhœa 37, small-pox (Sheffield 17, London 1) 18.

The death-rates ranged from 9.3 in Brighton to Oldham 29.6; Birmingham 21.8; Bradford 21.6; Hull 14.8; Leeds 19.4; Leicester 18.2; Liverpool 21.0; London 19.4; Manchester 28.3; Newcastle-on-Tyne 22.9; Nottingham 15.4; Sheffield 21.4; Sunderland 14.5.

In Edinburgh 16.5; Glasgow 22.2; Dublin 32.1.

The meteorological record for the week ending November 26, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Nov. 26, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, . . 20	29.55	41.0	54.7	34.8	92.0	79.0	91.0	87.3	S.W.	S.W.	W.	9	14	12	O.	O.	C.		
Monday, . . 21	25.92	32.0	38.6	25.4	76.0	87.0	90.0	84.3	W.	W.	W.	12	12	12	F.	O.	C.		
Tuesday, . 22	30.25	37.7	45.2	29.0	79.0	82.0	75.0	78.7	W.	S.E.	S.W.	8	3	4	C.	C.	C.		
Wednes., . 23	30.23	45.0	52.6	34.9	75.0	62.0	85.0	74.0	S.W.	S.W.	W.	7	10	8	O.	O.	O.		
Thursday, 24	30.42	39.7	45.0	37.3	84.0	92.0	88.0	88.0	N.	N.E.	E.	12	12	18	O.	O.	O.		
Friday, . . 25	30.36	37.7	44.0	39.0	92.0	100.0	100.0	97.3	S.E.	N.	N.W.	12	6	5	R.	G.	G.		
Saturday, . 26	30.32	47.3	60.1	34.3	39.0	50.0	46.0	91.7	W.	S.W.	S.W.	3	5	2	G.	F.	C.		
Mean, the Week.	30.15		48.6	33.5				85.9											

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 26, 1887, TO DECEMBER 2, 1887.

So much of S. O. 235, A. G. O., October 8, 1887, as relieves LT. COL. CHAS. T. ALEXANDER, surgeon, from duty at St. Louis, Mo., and directs him to report for duty at Fort Meade, Dak., is amended so as take effect January 1, 1888. S. O. 274 A. G. O., November 25, 1887.

BIRMINGHAM, H. P., captain and assistant surgeon. Leave of absence granted by order No. 52, Fort Myer, Va, November 24, is extended twenty-three days. S. O. 255, Division Atlantic, November 28, 1887.

SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology, and Hygiene will meet at 19 Boylston Place, on Wednesday, December 14, at 7.45 o'clock. Business: Final Report of the Committee on Metropolitan Milk-Supply. Dr. J. W. Farlow will read a paper on "Hypertrophy at the Base of the Tongue, with Report of Cases." Dr. F. I. Knight will open the discussion. Dr. W. D. Hodges will read a paper on "An Epidemic of Measles." Dr. S. H. Durgin will open the discussion. Dr. J. B. Jerould, of North Attleboro, will exhibit a patient presenting the unusual phenomenon of Objective Tinnitus Aurium.

A. L. MASON, M.D., *Chairman.*
ALBERT N. BLODGETT, M.D., *Secretary.*

GYNÆCOLOGICAL SOCIETY OF BOSTON. — A regular meeting of the Society will be held at No. 19 Boylston Place, on Thursday, December 15th, at 4 o'clock P. M. Papers: Dr. Helen L. Betts, "Woman's Dress — its Relation to the Etiology and Treatment of Pelvic Disease." Dr. C. W. Stevens, "A Case of Puerperal Septicæmia."

H. J. HARRIMAN, M.D., *Secretary.*

APPOINTMENT.

CHARLES W. TOWNSEND, M.D., has been appointed Assistant in Obstetrics in the Harvard Medical School.

TYPHOID FEVER IN CINCINNATI.

Typhoid fever is, at present, epidemic in Cincinnati. The visitation is chiefly attributable to the state of the Ohio River, which, we learn from the *Medical News*, has never been so low since 1881, when this disease was unusually prevalent. The death-reports for the week average about six per day; the number of cases is variously estimated at six hundred to one thousand. The various hospitals of the city contain about one hundred and fifty cases. The disease prevails in all parts of the city, in the most remote suburbs, as well as the city proper. Upon the advice of physicians, most families take the precaution of boiling all the drinking-water and milk. It is a common sight to see children on their way to school with bottles of boiled water slung across their backs with their satchels. There is general testimony at the medical societies that the disease is mild, though the mortality report is much larger than at any time in the history of the city. One prominent physician says that he has seen, in private practice, more cases of severe hæmorrhage than in any previous experience with the disease.

Drs. Rushford and Cameron, of the Bacteriological Laboratory of the Medical College of Ohio, have succeeded, by Brouardel's method, in discovering by culture-experiments, and demonstrating before the Cincinnati Academy of Medicine, the bacillus of typhoid fever in the waters of the Ohio River.

BOOKS AND PAMPHLETS RECEIVED.

The True Nature and Definition of Insanity. By C. H. Hughes, M.D., former Surgeon, United States Army, late Superintendent and Physician-in-Chief, Missouri State Lunatic Asylum, etc. St. Louis, Mo. Reprint. 1887.

The Present State of our Knowledge regarding Localization in the Cortex Cerebri. By Landon Carter Gray, M.D., Professor of Nervous and Mental Diseases in the New York Polyclinic. Reprint. 1887.

Syphilis of the Nervous System and its Treatment. By Landon Carter Gray, M.D., Professor of Nervous and Mental Diseases in the New York Polyclinic. Reprint. 1887.

A Case of Poisoning from Arsenical Wall-Paper. By W. Everett Smith, M.D., Boston, Mass. Reprint. 1887.

Original Articles.

HINTS TO PHYSICIANS SENDING THEIR CONSUMPTIVE PATIENTS TO COLORADO.[1]

BY EDWARD O. OTIS, M.D.

Of the advantages of the Colorado climate for either the arrest or cure of many cases of phthisis I do not propose here to speak. That matter, I shall assume, has been already settled by the physicians to whom I address this paper. I will, however, say in passing, for the benefit of those who may desire to investigate the subject, that it has been very carefully considered, with abundant and reliable data, as to temperature, humidity, cloudiness, winds, etc., by Dennison, Fisk, Solly, Eskridge, Wagner, and many others. Especially to be recommended are the papers of Dr. Fisk, of Denver, in various periodicals, giving careful and honest deductions from climatic tables and observations of indisputable authority. I will only stop to add to the large mass of meteorological evidence already adduced in favor of the climate the results of some private observations, made, and recently communicated to me by Dr. Hazelhurst, of Colorado Springs. These observations are for the last three winters, and I have arranged them in tabular form, so that one can see at a glance the number of clear, fair, cloudy, and stormy days. For comparison's sake I have also a table of the weather here in Boston during that time, kindly furnished me by the signal officer at this station. I add also a third table, giving a synopsis of the two previous ones.

TABLE I. BOSTON.

Synopsis of Weather Observations for the winter months. December, January, February, March, for the three years, 1884–85; 1885–86; 1886–87; made at the United States Signal Station at Boston.

	1884-5	1885-6	1886-7		1884-5	1885-6	1886-7
	Dec.	Dec.	Dec.		Feb.	Feb.	Feb.
Clear	6	8	6	Clear	12	10	6
Fair	12	11	12	Fair	10	10	11
Cloudy	13	12	13	Cloudy	6	8	11
Stormy	*13	*14	*12	Stormy	*10	*10	*14
	Jan.	Jan.	Jan.		Mar.	Mar.	Mar.
Clear	9	9	7	Clear	8	7	8
Fair	12	11	11	Fair	16	15	10
Cloudy	10	11	13	Cloudy	7	9	18
Stormy	*9	*18	*12	Stormy	*9	*17	*11

*Including days on which .01 inch of rain or snow fell only.

As a further bit of experimental evidence I will say that in a conversation with one of the physicians of Colorado Springs last summer he told me that he had that very season, after a residence and practice of fifteen years in Colorado, met with the first case of phthisis that seemed to have originated in that climate.

It is unfortunate that up to the present time more physicians treating large numbers of phthisical cases in Colorado have not published the results of their experience; but outside of the two hundred and sixty cases by Dennison, I know of none. It is likely, however, that there will soon be given to the public the results of a large number of cases, carefully noted and observed during many years of practice at Colorado Springs.

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Society, November 9, 1887.

TABLE II. COLORADO SPRINGS.

Synopsis of Weather Observations for the four winter months, December, January, February, March, 1884 to 1887 inclusive; made by Dr. Hazelhurst, of Colorado Springs.

	1884-5	1885-6	1886-7		1884-5	1885-6	1886-7
	Dec.	Dec.	Dec.		Feb.	Feb.	Feb.
Clear	15	23		Clear	10	23	21
Fair	7	4	Not given.	Fair	14	4	5
Cloudy or overcast	8	2		Cloudy or overcast	2	0	2
Stormy	1	2		Stormy	2	1	2
	Jan.	Jan.	Jan.		Mar.	Mar.	Mar.
Clear	25	22	5	Clear	7	20	
Fair	6	3	24	Fair	14	2	Not given.
Cloudy or overcast	0	3	2	Cloudy or overcast	2	4	
Stormy	0	2	0	Stormy	1	3	

TABLE III. BOSTON AND COLORADO SPRINGS.

Synopsis for Weather Observations for December, January, February, and March, from 1884 to 1887 inclusive (three years), with the exception of December, 1886, and March 1887, at Colorado Springs.

	Boston.				Colorado Springs.			
	1884-5	1885-6	1886-7	Total	1884-5	1885-6	1886-7	Total
Clear	35	34	27	96	57	88	26	171
Fair	50	47	44	141	41	13	29	83
Cloudy or overcast	36	30	50	116	8	8	4	20
Stormy	41	59	49	149	4	8	2	12

For the two years, 1884–85, 1885–86, during December, January, February, March, there were:
In Boston, 69 clear, 66 cloudy, and 100 stormy days.
In Colorado Springs, 149 clear, 16 cloudy or overcast, and 8 stormy days.

For the three years, 1884 to 1887, inclusive, during January and February, there were:
In Boston, 53 clear, 59 cloudy, and 73 stormy days,
In Colorado Springs, 106 clear, 3 cloudy, and 7 stormy days.

From a somewhat careful consideration given to the numerous health resorts throughout the world, and a personal acquaintance with some of them, I am prepared to say that I know of none possessing so nearly a perfect climate for many cases of phthisis, taking it all in all, as that of Colorado; or so nearly fulfilling the conditions necessary for the most successful climatic treatment. "Climatic treatment," says Lindsay,[2] "aims at removing the patient from a climate which induces an indoor and sedentary life to one where an outdoor life of healthful activity may be continuously enjoyed, without hindrance from meteorological conditions. Climatic treatment aims at removing the patient from a comparatively sunless and depressing climate, which impairs vitality and lowers nutrition, to a sunny and tonic climate where appetite, digestion, and sanguification undergo such augmentation as may enable the patient to shake off or hold at bay the tendency to consumptive disease." All this, I believe, does the Colorado climate, and with this opinion, I am confident that very many physicians who have considered the subject, or who have had personal experience in the climate under consideration, will agree. Health resorts there may be which excel in this or that regard, but none, I believe, which possess such an all around favorable climate for phthisis as that of Colorado. One may urge as an objection to it

[2] The Climatic Treatment of Consumption, a Contribution to Medical Climatology. By James Alexander Lindsay. Macmillan & Co., 1887.

that it is like a mouse-trap, when you are once in it you are obliged to stay there; but is not this true to a great extent of any health resort worthy of the name? Fortunate is the consumptive who can live comfortably and indefinitely, with a chance of getting well, anywhere, particularly among the beauties and attractions of Colorado.

My object, in the present paper, is to aid the physician of the same opinion as myself regarding the Colorado climate, to give his patient, whom he is sending hither, such hints and advice as will enable him to settle and live in the new climate with greater ease, comfort, and safety, than he might otherwise do if left to pick up the knowledge requisite for this by his own experience.

Having spent the last summer in Colorado, I was there long enough, perhaps, to appreciate the many bits of knowledge necessary and useful for the newcomer, and not too long to forget or overlook them. When the physician says "go to Colorado," he may not realize that the State is nearly as large as New England and the State of New York together, or larger than England, Scotland, and Wales; and he must, therefore, give his patient more specific directions than these. How often, alas, is one sent to a new climate in just this vague way, or even left to make the selection of a proper climate for himself![3] Generally, however, the physician means Colorado Springs, for there the larger number of invalids or "lungers," as they facetiously call themselves there, go; and undoubtedly this town is better prepared to care for the consumptives than most others in Colorado, for it is not an inconsiderable source of revenue to the inhabitants. Scattering cases go to Cañon City, Denver, Salida, Boulder, and other places, but, with the exception of Denver, the accommodations are probably far better in Colorado Springs, if one is able to pay for them. Some, mostly young men, go out on a ranch, if they are strong enough to endure the hardships and privations consequent upon such a life; but they must be prepared for poor food, and much of it canned. Wherever the patient goes, the physician under whose care he comes — and he should be under the observation of some medical man — should be informed by the home physician, of the history and condition of the patient. Better is it if the new physician is personally known by the one at home. Moreover, the former will render great assistance to the recently-arrived invalid by advising him as to boarding places of good repute, and in wholesome localities, and, indeed, in a thousand other ways.

The majority, then, of consumptives, as I have said, go to Colorado Springs, a town of seven thousand, or more, inhabitants, with the purest of drinking water from the melting snows of Pike's Peak. Its streets are traversed by irrigating ditches, from which the lawns and yards are frequently flooded in summer, which has been considered by some persons productive of too much dampness. On one side of the town are the foot-hills and mountains, and on the other the limitless plains, thus offering an endless variety of rides and drives. Almost all the conveniences, and luxuries even, that one has been used to at home, can be obtained here. There are good shops of all kinds, and the markets are well supplied. Fruit comes from California, beef from Kansas City, and game from Colorado itself. There is an opera-house for passing shows, a club-house, a free postal-delivery, and a horse-railroad. The town is most orderly, and there is not, or cannot be, from the conditions under which all building lots are sold, a drinking saloon in it. The physicians, nearly all of whom are there per force, on account of pulmonary trouble, are men of ability and skill. There is no system of sewerage as yet, but one is in contemplation, and, I should say, was much needed. The boarding houses are many, and, for the most part, seem to offer good accommodations, the average price of board and lodging being from twelve to fifteen dollars a week. What the physicians there advise, and which obviously is the best plan, is housekeeping, if the invalid is strong enough, and is with friends; but rents are high. There is a good hotel, the "Antlers," where the new comer will spend his first few days until he has selected his permanent quarters. The character of the society is much like that of a summer resort, quite cosmopolitan, as one would naturally expect from the coming together of people from so many different parts of the country.

There are many — too many — social entertainments, teas, balls and the like, where consumptives are crowded together in a small space, and strength which ought to be husbanded is wasted in this way. The physicians see and fight against these excesses, but there, as elsewhere, it is hard to stem the tide of fashion and society. The daily life of the invalid is essentially an outdoor one, which is very possible when one considers that there are only about thirty-five to forty-six cloudy days in the whole year, and from "October 1st to April 1st there is an average of less than one-half a day of each week when the patient will be deprived of sunshine."[4] During the winter there is practically no rain, and one can sit on the veranda or be in the saddle every day; the day of sunshine during this season being about eight hours.

For some time after coming to this altitude (Colorado Springs being 6080 feet high), comparative rest and inactivity is enjoined, and probably with wisdom; but sometimes it seemed to me that this injunction was carried to an extreme, and that moderate exercise would have hastened the improvement, or recovery. Horseback riding is the exercise par excellence at Colorado Springs, as elsewhere in the State, and horses are good, and comparatively cheap. The rides are innumerable. Out on the plains; to the various Cañons; to Manitou; the Garden of the Gods, etc. Could anything be more exhilarating than a gallop out on the limitless plain in a Colorado saddle, on an easy-riding broncho, the prairie dogs barking at the doors of their little mounds, the rabbits hopping through the sage bush, and in the distance a long line of cattle going for water or salt!

It seemed to me that there was no very great opportunity for one to find remunerative employment in Colorado Springs, for it is not commercially active. Probably some of the other and more busy towns would serve better for this purpose. My impression of Colorado in general, however, is that a man of sufficient strength, with energy and adaptability, who desires self-supporting work, will not be long in finding it. As an illustration of this, I know a young clerk, from this city, who went to Colorado Springs for pulmonary trouble, but who was strong enough to be about and around after a little. At the Springs he

[3] Vide Some Observations on Health Resorts, by the author. Reprint from the Boston Medical and Surgical Journal of March 11, 1886.

[4] Wagner, in a recent issue of the N. Y. Medical Record.

found a cattle-man, who took him into his employ and sent him up into Estes Park to look after his cattle. He got the use of a good horse, and was paid a fair monthly salary, together with his board. Possessing Yankee shrewdness he found an opportunity to preëmpt a quarter-section of grazing land at the same time, and now he bids fair to regain his health, and have some dollars in his pocket at the end.

In summer, Colorado Springs, judging from my experience, is likely to have many uncomfortably hot days, and it seems to be well for the invalid to seek the coolness of the mountains somewhere, and, moreover, it makes a pleasant and agreeable change, after a winter spent in civilization, with its consequent and inevitable evils, to have something of the wild and free life of the mountains. There are many of the so-called mountain parks near or more distant, and ranging in altitude from 7,000 to 10,000 feet high, which offer both a cool temperature and all the attractions of grand mountain scenery. One finds hotels in some, in others boarding ranches, and in the more remote places he must go prepared to camp out. In all the food will be found to be more or less bad, depending upon the distance from any source of supplies, but, unless very delicate, the invalid will soon learn to put up with it, and will have such an appetite from the life and invigorating air that he can sit down and eat a piece of raw ham. If one enjoys, and is strong enough for, long trips on horseback, he can start on his horse from Colorado Springs, or Denver, and ride to the mountains, and have his horse there for use. I met a company of young men in Estes Park, two of whom were "lungers," though they looked the picture of health, who had ridden from Colorado Springs, and were en-route for North or Middle Park, with their camping paraphernalia, in search of trout and deer. For those who are delicate, and need moderately comfortable quarters and care, there is Manitou Park, Idaho Springs, Salida, and Poncha Springs, near by. Georgetown, a typical mountain village, most picturesquely situated in a deep, narrow gulch, on Clear Creek cañon, and Estes Park, one of the most charming spots in all Colorado, and of which I shall speak a little more at length. It is one of the smallest of the Colorado parks, and is about ten miles square, and seventy-five hundred feet, about, above sea-level. It is reached, from Denver, by railroad to Lyons or Loveland, and from thence by a stage road of twenty odd miles. The journey is made in a day from Denver. There are but few buildings and settlements in the park, the most of it being owned by the so-called English company. Some years ago the Earl of Dunraven visited the place and was so much impressed with its beauty that he got possession of it. There is a small hotel there of moderate price, and three or four boarding ranches. Ferguson's and James's are the best, at which room and board can be obtained for about twelve dollars a week. Each of these ranches consists of a number of small cabins of two or three rooms, some of logs and others of rough boards, but one is very comfortable in them, and he is, or should be, only in them to sleep. The food is fair for the mountains, about the same quality as in the Adirondacks. It seems paradoxical that the beef should be of poor quality, when all around are herds of cattle preparing for the Chicago market. One has, however, every day, an abundance of the most delicious brook trout.

One of the great charms of the park is the nearness of the mountains. On two sides are the great snowy ranges terminating in Long's Peak, 14,272 feet high, the "Matterhorn of the Rockies." The air is of the purest, and almost every day is a sunny one. Very rarely is it uncomfortably hot, and the nights are always cool. Generally a fire is comfortable. But once during a stay of six weeks there did I notice any dew, and one can sleep under the open sky without danger from dampness. Many spend the summer in tents, which dot the park over, but most of the cabins have chinks and cracks enough in them to let in sufficient air. The flora is large and luxurious, and the botanist will find continual surprises and delights in it. Indeed, I do not see how it is possible to find a clearer or more invigorating air, sunnier or bluer skies, grander or more beautiful scenery in the whole Rocky Mountains than here in Estes Park. I have known of a consumptive getting up from her bed in Colorado Springs to go to the park, and in a short time after her arrival there riding horseback. The winter is not uncomfortable there, I am told, or very cold, and, so far as the climate is concerned, one could well live the entire year there if he could endure the loneliness. Indeed it would be to me infinitely preferable to a winter among the snows and ice of the Adirondacks; and if a mountain health resort of such perfect climate existed anywhere in Europe, Davos would be deserted. If one has passed the winter at Colorado Springs I would advise them to go to Estes Park about the middle of June, when occasional hot days come at the former place, and remain until the first of October. If one rides horseback — and half the pleasure in the park is gone if he does not — it is the cheapest way to take your saddle with you, and buy a pony there, which one can do for forty dollars and upwards. There is a mail once a day, but no telegraph. Comparing my experience of the climate of Estes Park with that of the Adirondacks, I should say that it was rather warmer in the former place, far dryer, and much more sunny. One feels the same invigorating influence in both places. The night temperature is about the same, I should think, in both places.

In winter and spring, either at Colorado Springs or elsewhere in the State, there are occasional high winds—"wind storms" they call them—accompanied with clouds of dust, which may produce an irritating and injurious effect upon those whose pulmonary trouble is accompanied with much secretion, and who have sensitive throats. It may be a question whether it is best for them to remain in consequence of this. The damper, but more quiet and soothing, atmosphere of Southern California, or the South, may serve them better, which is again an illustration of the fact that no one climate suits every case of phthisis.

The best time to go to Colorado is probably in September or October — most delightful months there. The best time to come East for a visit, I should think, would be either in May, June, or October. The best way to go from Boston is, in my opinion, by the New York Central and Lake Shore Railroads to Chicago, and from the latter city to Denver by the Chicago, Burlington and Quincy Railroad. By this route there is but one change from Boston to Denver.

One or two general hints in closing, and then I desire to present a rather remarkable series of photographs of Colorado Springs and surroundings, and of

Estes Park, which I am enabled to do through the kindness of Mr. F. H. Chapin, of Hartford, Conn., who took them.

Clothing.—One should have as thick winter clothing in Colorado as in this climate, for the mornings and nights are often very cold. In the sleeping room, moreover, one must make sure that the floor is tight and covered with a warm carpet. A fire should be made in the morning before the invalid arises.

Expense.—It is expensive both going to and living in Colorado. The cost of the journey there is from seventy-five to one hundred dollars; and board in Colorado Springs, as I have said, is from twelve to fifteen dollars a week. Rent of cottages is from fifty dollars upwards. About the only thing that is cheap is horse-hire.

Effect from the Altitude.—Some patients think it wise to make the ascent from the Missouri River to Denver gradually, so as to become accustomed to the altitude. The majority, however, I think, go at once to the altitude at which they are to live, and generally, so far as I can learn, experience no especial discomfort or harm from doing so. For about ten weeks I lived at an altitude of from six to seven thousand five hundred feet or more, and climbed mountains, three of which were over fourteen thousand feet high, without experiencing the slightest discomfort. Nor, indeed, was I in any way unusually affected, except, perhaps, on three occasions. Twice when on high mountains I had a slight headache, and the third time when at Leadville, which is over ten thousand feet high, nearly to timberline, it seemed to me that in walking I got out of breath more quickly than usual. I have climbed high mountains with one of affected lungs, who seemed to endure the exertion and altitude about as well as I. A curious effect of the altitude was noticed by a physician in his own case. When about ten thousand feet high, at which altitude he generally lived, the fever which accompanied his pulmonary trouble was kept in abeyance. When, however, he descended to a lower level it recurred, or increased in severity.

Length of Residence.—In whatever climate one finds his lung trouble improving steadily, there he should remain, not only until all signs of mischief disappear, but, in many cases at least, as long as he lives. I feel convinced that this is the safest and wisest plan, and I think that physicians of experience are gradually growing to this opinion. This is especially true of the Colorado climate, which is such a radical change from the one the patient is likely to come from. I believe the slow improvement, or lack of any improvement, in many cases is due, partly at least, to the worry over the enforced exile, and eager watching for the time when they think they will be able to return to their homes. It is often noticeable how quickly and permanently those improve and recover who take up their residence in Colorado, and settle down to permanent living there, with their friends and family about them. The contrary is also observed with those who make it a mere health resort, and are separated from their family and friends; as, for instance, a wife from her husband, or a daughter from the rest of her family.

— The *Ecole Pratique*, of Paris, was lately damaged to the extent of $20,000 by fire.

LOCAL MASSAGE FOR LOCAL NEURASTHENIA.[1]

BY DOUGLAS GRAHAM, M.D., OF BOSTON, MASS.

NEURASTHENIA, as I understand it, may be either general or local, affecting the nerves or nerve-cells of all, or any part of the cerebro-spinal or sympathetic system. Its manifestations are those of exhaustion or too easy exhaustibility of nerve-force; and its pathology, malnutrition of the nerve-cells involved, with concomitant instability of their circulation in the form of anæmia or hyperæmia, or alternations of these. It predisposes to, it accompanies, it results from disease; the nervous shock and the tedious recovery from injuries point to other sources, and it may be caused by overwork, worry, or sheer laziness. The agreeable fatigue after a satisfactory day's work that insures sound sleep may be regarded as a healthy form of neurasthenia, if the Hibernianism may be pardoned.

It is a matter of common observation that those who are compelled to hard manual labor seldom suffer from nervous prostration; and amongst the more fortunate who may be predisposed to neurasthenia, those who are deeply interested in some hobby or occupation that keeps mind and body active, have found the best means of prophylaxis. The same means that serves for its prevention also supplies us with a clew to one of the most valuable agents that can be employed for its relief or recovery. Exercise keeps the circulation active, but requires effort of brain, spinal cord and nerves, as well as muscles, at a time when our object may be to afford rest to one or all of these parts of an overtaxed nervous system. Massage supplies this want, and will keep the circulation going with a minimum or no expenditure of nerve-force from the patient, and deep massage without friction will lessen the beats of the heart, and afford it rest also. Nay more, for it is getting to be the fashion not only amongst the laity, but also with some physicians, to say that massage imparts energy to the patient, though I confess I do not exactly understand what this means. Certainly, many who submit to massage feel much more vigorous, light, and supple after even the first application than they did before it. But may not this rather be owing to the rousing of their latent energies, and restoring the equilibrium of their forces, by facilitating the circulation of blood and lymph, and the transmission of nerve-force?

I have previously stated elsewhere that in cerebral exhaustion the relative value of massage was almost *nil*, and that out-of-door exercise was of paramount importance; but I have since found reason to modify this in favor of more massage and less exercise. In such cases, massage of the head alone daily, or every other day, is better than applying it all over the patient, unless there be a rare idiosyncrasy that will not allow the head to be manipulated.

There are people, not a few, who, when using their brains, suffer from uneasy sensations in the lumbar or dorsal region, and these discomforts continue after the cessation of study, causing wakefulness. Generally, there is also some spinal irritation in the region affected. In such cases, massage of the back alone will often induce sound sleep, and, next day, the patient feels inspired with faith, hope, and courage, in place of doubt, dread, and fear of meeting appoint-

[1] Read before the Section of Clinical Medicine, Pathology, and Hygiene of the Massachusetts Medical Society, Suffolk District, November 9, 1887.

ments. With these cases, a much more marked effect is produced by local than by general massage, except when the tenderness of the muscles and spinal irritation is extreme, unfitting them for every kind of work, and then the massage should be general, omitting the back at the first *séances*, but gradually approaching it at subsequent ones.

In other cases of what may be called local neurasthenia, if the term can be allowed for this purpose, such as writer's cramp, or the cold, small, and feeble muscles resulting from injury, disease, or disuse, massage and exercise, carefully adapted, have given excellent results. To these have recently been added another affection; namely, laryngeal cramp of musicians and speakers, for the local treatment of which electricity and massage are considered the most effectual measures.

It is not the purpose of this paper to go into the details of applying massage, nor to consider its minute effects; but I think it will be a revelation to many to experience either in their own heads, or to observe in those of their patients, the light, comfortable, delightful feelings that are produced by the resistance of a skilled manipulator to forward, backward, and lateral movements of the head. The impression is that the interior of the head has been benefited, and the effect is hardly secondary to massage, which rather gives the impression that the exterior has been improved.

The following cases seem to me sufficiently worthy of notice as examples of the conditions mentioned:

Case I. A. J., twenty-three years of age. Three years prior to my being called to him, he had been winning races at college at the same time that the functions of his brain flagged, and study had become so irksome, producing headache and insomnia, that he gave it up for a year. At the end of that time he returned to college for a year, and, to use his own words, "patched up and graduated," and for the year before I saw him he had been trying to recuperate by resting at home. At this time, even walking sometimes produced discomfort in his head. At my first visit he had been suffering from headache, with tolerably acute pains in the external branches of the fifth pair of nerves, and had had but little sleep for four nights. The immediate cause of this had been too much conversation with friends on the evening of a holiday. Massage of twenty minutes to the head alone, in the evening, almost completely relieved the headache and neuralgic pains, and was followed by an excellent night's sleep. After this massage, of the head, with resistive movements to the muscles of the neck, was repeated seventeen times in twenty-four days, and the improvement in sleep, in comfort of the head, and in the power of using his mental faculties was so great, that it became a serious question whether he should not abandon a six months' sea-voyage that he had engaged. Marks of improvement that may be mentioned were: that when he had an occasional wakeful night, he felt no worse on the following day; he had none of his former anxiety in taking charge of his class in Sunday School; he attended a large party late one night without any after-effects, and he walked about freely, and all while he was preparing for an absence from home of six months or a year. Medicine had been laid aside before massage was tried in this case.

Case II. Rev. D. L., aged sixty-six years, has a good appetite and is well nourished, weighing about one hundred and eighty pounds. For twelve years, he had suffered much from wakefulness. He required from eight to nine hours of sleep, but seldom got more than five or six hours of broken, unrefreshing slumber. At times he would fall asleep soon after retiring, to wake up in a short time; at others, he would lie awake for hours before getting to sleep. Besides discomfort about the head, he had still more distressing dull aches and uneasy sensations in the lumbar region, aggravated by study or wakefulness.

He found some relief from giving up his ministerial duties ten years before I saw him. He came to me on the 25th of January of this year, and, after thirty-five minutes of massage on his head and back at noontime, he passed the remainder of the day in comfort, and that night and the following had seven hours of sleep each, so that when he came to me on the second day after massage he was hopeful and radiant. Massage was repeated at 11 A. M. on head and back, with increase of comfort to the patient. He did not sleep so well the following night as he did the two preceding nights, but he realized that he was quiet and serene, and felt that he was resting, and next day was refreshed. This day he had a refreshing sleep of an hour and a half in the afternoon, which he never could obtain before when well, and that night slept steadily for seven or eight hours. This patient had massage three times weekly, at or near noon, for seven or eight weeks, and the result of the first week is a fair average of the succeeding weeks: five good nights of sleep out of six, with a nap of an hour or two in the afternoon; and, when wakeful, he felt that he was resting, and, the following day, was not miserable from loss of sleep, as before massage; vigor of body and mind gradually increased, and he could take part in lectures, sociables, and other evening entertainments without loss of sleep, as formerly. Mild tonics and stimulants always made this patient worse. An epiphora that had troubled him for many years disappeared under massage of the eyelids.

Case III. Mr. E. B., thirty-five years of age, had been in good health for several years, and attended to his business, which involved great detail, from 9 A. M. to 6 P. M., with an hour off at noon for lunch. He had remained in the city all the previous summer, and felt very well when he went away for a vacation of several weeks to Colorado, returning on the 20th of November. From the time of his return he began to suffer from headache, which caused him to be out of his office several hours daily; and, by the end of three weeks, this became suddenly so much worse that he was obliged to leave his office altogether. There was a slight elevation of temperature, but still he had a good appetite, and slept well. I gave him massage of the head on three successive days, and the headache was relieved only while the head was being manipulated, and for a short time afterwards. When massage was being done on the right side of the head, the ache would disappear and increase on the left side; and, on doing both sides they were relieved, and the ache increased in the back of the head; and, on *masséing* the back of the head, the discomfort would disappear from there and increase in the forehead, and, on manipulating this region, it would disappear altogether for a time. In other cases, I have chased pain in this way all over the patients without being able to dislodge it completely, only temporary relief being afforded at the place of application.

Case IV will serve to show still further that it is

not always well for those who are inclined to nervous exhaustion to give up their employment when working easily, and go away on a vacation. Miss M. P., thirty-four years of age, teacher in a High School, had been subject to headaches all her life. Her parents had highly nervous temperaments. One year before I first saw her, the headache had been so severe that she was confined to bed for seven days with pains all over her and elevated temperature, and since then the headaches have been more frequent and more severe than before, and usually accompanied with nausea and vomiting. Evidently, the case was one of migraine. The ache was on the left side of the head, in the left eye and more especially over the left temporo-parietal region, accompanied with a crawling sensation at the back of the head, and soreness of the muscles of the back of the neck. The left side of the face was smaller than the right. She had great weariness and weakness in her arms, so that it tired her even to raise them. In the cervical and upper dorsal region, there was much tenderness on pressure over the spinous processes. Her appetite was good, bowels regular, and she slept well. Notwithstanding the increase in frequency and severity of headaches for a year, she had gained in weight, mainly adipose, so that she weighed one hundred and sixty pounds, her ordinary weight being one hundred and twenty-three pounds. She continued her duties as a teacher, and found that she felt better when occupied in this way than when not feeling compelled to do anything. Saturdays and Sundays were her poorest days, and a vacation of two months in the South ten months before she came to me was of no apparent benefit to her, but, she thought, made it all the harder for her to begin her professional duties again. Correcting examination-papers fatigued her more than anything else. She could walk three or four miles with ease.

The first massage of thirty minutes on the head alone left this region "perfectly comfortable," until the second massage was repeated, two days later, when this comfort was extended to the manipulated regions — head, neck, arms, and shoulders — and a burning sensation between the shoulders was also relieved. In four weeks, a continual wooden, numb sensation of the left side of the head was not only relieved temporarily, but did not return; and, corresponding objectively to this, her tough, indurated scalp had become soft and supple. Sixteen days after she came to me she could not stand and read on account of weak and uneasy sensations in the back of her neck, as if her head would drop backwards when she attempted to hold the book, but she could sit and read with ease. This was at the catamenial period, when she was generally worse in every way. But, two days later, she was much surprised to find that she had recuperated more quickly, and to a greater extent, than ever before. This patient had massage twenty-five times in ten weeks, with increasing improvement, and this continued after treatment was omitted, so that she was practically well — sufficiently well to enjoy her summer vacation, which helped to confirm the benefit previously received. Six months later, she reported that she had continued quite well. The following spring her troubles returned in the same way, but less severely than formerly. They were speedily removed by massage, and staid away for a year, when, again, there was a slight relapse, and more speedy recovery under massage. At times, she had found nux vomica more beneficial than any other internal remedy, but even this had lost its effect before massage was tried.

CASE V. Mr. J. B., aged thirty-three years, has always been a nervous man. He often felt fatigue in the lumbar region, but this he regarded as a matter of course, and he was always capable at business until six years before I first saw him. At that time he was in an elevator which was being tested against sudden falling by means of some "sure patent preventive." The experiment failed, and the elevator fell eighty feet with six men in it. While descending, our patient sat as tailors do, hoping thereby to diminish the shock of stopping. He got out apparently none the worse, walked four squares to his newspaper office, for he was then an editor, and dictated an account of the accident. He staid at home for five or six weeks, but was not confined to bed. After this he resumed his duties, but it was eight months before he could walk a mile. For a long time, in the evening, the region of the spine was painful, but relief was often found by pouring cold water upon it; at other times, from very warm water. During vacation he was perfectly well, and played lawn tennis. For three weeks before I saw him he had suffered from pain in his back and legs, and could walk but a very short distance at a time. Conversation and reading quickly tired him, and part of either would escape his attention. A few hours at business would cause nausea and headache, and make him feel generally used up. Appetite, bowels, and sleep were in a normal condition.

At my first interview there was much tenderness on pressure over the spinous processes and muscles of the back; but, after three massages in nine days, they could be manipulated quite vigorously. After six massages in eighteen days, he was practically as well as ever. Manipulation was exceedingly agreeable to this patient, and, while it was being done on either leg or hip, the agreeable sensation was felt in the back and in the other leg and hip, as well as at the seat of application. About once a year, usually in fall, after his vacation, this patient finds himself used up, as just described, and he has learnt by experience to rely on the prompt relief afforded by massage. He has also found wine of coca of some use. I have frequently made similar cases worse by using massage too vigorously to begin with.

CASE VI. When Mrs. M. W. came to me in October, 1884, she was fifty-eight years of age, and weighed 213½ pounds. Her adipose tissue was supple, and of good consistency. She had then been suffering for three years from a continual, distressing feeling of weakness in the right leg and thigh, which first made its appearance when there was some enlargement of the internal saphenous vein, but this had long ago disappeared. On examination, the whole limb seemed normal in every respect. The patient was not at all of a nervous, hysterical, or imaginative temperament, having been at the bombardment of Fort Sumter, once in a steamboat explosion, and once made a long voyage in a vessel with the cargo shifted, so that there was imminent danger of the vessel upsetting, besides having travelled twice round the world, on one of these occasions taking command of a vessel for four weeks amidst shoals and breakers in the China Sea.

A walk of a square was as far as the patient could go with comfort, and a walk of one-fourth of a mile caused great fatigue, and increased the feeling of

weakness. She had tried absolute rest for one, two, and three months at a time, during which she lost flesh, but the limb did not improve. At my request, she omitted potatoes, sugar, and butter from her diet, and began walking for two minutes every hour during the day, which was increased daily one minute every hour. Massage was given to the leg, thigh, and hip three times weekly. The first time it comforted and rested the limb, and after this passive and resistive movements were also given, which at first tired the limb, but this was at once counteracted by manipulation. At the end of two weeks she could walk half a mile without fatigue — twice as far as she could before with great fatigue — and a distressing pain that previously came after slight exertion at the exit of the sciatic nerve had not been felt for a week. At the expiration of four weeks the patient walked a mile and a half with ease, feeling but slight general fatigue thereafter, and the limb that had been weak was not so tired as the other. It was by her own wish that massage was repeated occasionally for a few weeks longer, and she has continued well ever since. Under the restricted diet she lost seven and a half pounds, and no doubt but this aided her recovery.

Case VII. Miss E. H. was thirty-nine years of age when I attended her in the winter of 1883–84. She is irregularly astigmatic, and suffers from headache, and this is worse at the menstrual period, which recurs every three weeks and a half, accompanied with pain. She suffers much at times from indigestion. She is a lady with a strong mind, a clear intellect, an unwearied conversationalist, and, in the language of her physician, who sent her to me, "she is a preëminently hyperæsthetic subject, and would be hysterical, did not the brain govern the *cerebrum abdominale*." For five years she had suffered with pain in her right knee, impairing locomotion, and, the latter part of this time, there was pain also in the outer and posterior aspects of the thigh, where the muscles were considerably atrophied — so much so that her other discomforts seemed small in comparison with those of the limb. The trouble in the limb came when she was run down from nursing a sick relative, and, coincident with this, a severe cough that had been increasing every winter disappeared, and did not return. During these five years under rest, with and without fixed dressings, changes to country and seashore, the use of tonics and sedatives internally, and blisters externally, there would be sometimes a little improvement in the knee, but always followed by speedy relapse on slight or no provocation, such as accidentally hitting it against something, or being obliged to use it a little more than usual. At times, the pain was relieved by walking; at others, made worse. It was aggravated by cold weather and by riding in a carriage.

Examination showed that the affected limb was much smaller than the other, the skin cold and dry, the muscles atrophied, but there was nothing especially noticeable about the knee, save slight puffiness and great tenderness on pressure upon the internal condyle, not in the skin. Owing to pain and weakness, which were aggravated by walking, she could take but a few steps when massage was begun, and the only symptom then in her favor was steady sleep. Massage was applied three times a week for eleven weeks and a half, being omitted for a few days at one time, on account of unusual pain in back, stomach, and intestines. For the first four weeks, massage, with gradually increasing exercises, was confined to the affected limb, with the result that she was, at the end of this time, taking four walks daily, of ten minutes each, besides exercises of standing on tip-toe, stepping up two steps at once, holding the limb out extended, and elevating it sideways when lying down. From the first, the skin became warmer, softer, and suppler, and the muscles fuller, as shown by an increase of one-half inch around the calf; one-fourth inch at the knee; one-eighth inch three inches above the patella; and one-fourth inch seven inches above the patella. When treatment was discontinued, these gains were one-half inch, five-eighths, three-eighths, and seven-sixteenths, respectively. But at the end of four weeks the pain was still about the same, notwithstanding the improvement in locomotion, nor had it entirely disappeared when massage was given up.

As soon as she made known the head and abdominal troubles, massage was applied for ten minutes to each of these regions also, which was during the last seven weeks of treatment. Headache was improved, sleep became more refreshing, digestion easier. During the last eight or ten days of treatment, it became evident that, though the patient was much better, and could go about much more freely on foot and in a carriage, she had come to a stand-still, and consequently the treatment was terminated rather sooner than she wished. A year later I saw her and she was the picture of health. Her appetite was enormous and digestion good. She had gained many pounds in weight and could walk freely, but still suffered from headache. She considered, and I think rightly, that massage had given her a start, and improvement had continued since it was omitted, for no other treatment had been used.

Amongst people who may be considered perfectly well, there are few, if any, who have not some weak points. When fatigued or worried I suffer from tension and dull ache throughout my whole right side. In September, 1884, when in Paris, I had one man give me half-an-hour's massage on my right side only, at 2 P. M., and another half-an-hour's massage on the same side at 5 P. M. The manipulation was slight, superficial and rapid and at the time of its being done seemed very ineffectual. But that night I never slept so sound in a railroad-train in all my life, as I did from Paris to Calais, and while crossing the channel I was not even sick. Two days later I played deck quoits all one afternoon when the themometer was 80° in the shade and the ship rolling. Next morning my playmates could scarcely get out of their berths, they were so stiff and tired, and so was I, but the fatigue was all confined to my left side and not to the right as formerly.

It may be said that these were not very sick people, but they are cases that prove troublesome to physicians, and they were certainly in conditions which any one of us would gladly be freed from. It is not necessary that I should dwell upon extreme cases of nervous prostration that have been treated by absolute rest, forced feeding, massage and electricity. I could give further details of the above-mentioned cases and also of similar ones which would seem to justify the following conclusions:

(1) That massage induces sleep.

(2) That even when massage is applied in the forenoon its soporific effects may not disappear before bed-

time; though in general the later in the day massage is used for promoting sleep the better.

(3) Disagreeable feelings of drowsiness and languor do not necessarily intervene between massage in the forenoon and sound sleep at bed-time. Aptitude for rest or work generally follows massage.

(4) When people are wakeful after massage they may not be restless nor feel the loss of sleep on the following day.

(5) Spinal irritation is relieved or disappears under massage.

(6) For local neurasthenia there is no need of general massage, unless the whole system be secondarily influenced.

(7) When affections have come to a stand-still under massage, improvement may yet go on after massage has been discontinued.

(8) For improving the nutrition of nerves and muscles, restoring natural sensation and motion, massage may succeed when other means have failed.

(9) Deep massage without friction has proved of more value in my hands than all other forms of massage put together, in the cases herein considered.

(10) Massage can be overdone, producing opposite effects from a moderate application.

(11) Besides massage, carefully-graduated exercises at regular times, are valuable accessories in the restoration of motion.

(12) Massage is not the only means of treatment for neurasthenia. Its selection is usually decided upon after the failure or exhaustion of every other means; in the same manner that the shrewd old divine decided that it was not wise to let the devil have all the good times to himself.

A CASE OF CHRONIC PANCREATITIS, WITH SYMPTOMS RESEMBLING MALIGNANT DISEASE.

BY E. L. CALL, M.D., BOSTON.

MRS. B., age sixty-two, widow, was first seen February 24, 1886. She was of medium height and weight, her skin was sallow, and her countenance haggard and anxious. Her habits of life were regular and her hygenic surroundings good. She said she had been well till within the past three or four months, but more searching inquiry showed that her appetite had been very capricious for a number of years and that during the last year she had lost strength and a moderate amount of flesh. Her diet had been mostly of the saccharine and starchy foods, as she had always disliked meat. For the past few months physicial exertion of any kind had tired her out of due proportion, and during the last few weeks even moderate exercise had been followed by breathlessness and beating in the arteries of the neck. There was complete anorexia, and the bowels were very constipated.

The physicial examination was as follows: Skin, a muddy yellow; tongue, rough, slightly coated; lungs, normal; heart, normal in size and position, moderate blowing murmur throughout the cardiac area, most marked over the base; abdomen, normally resonant; liver dulness, normal; no increased spleen dulness; pelvic organs, normal; urine, normal.

[1] Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, November 9, 1887.

In consequence of the negative result of the examination, the case was regarded as one of profound anæmia, and the treatment was directed toward regulating the bowels, and assisting nutrition easily by digestible food and some of the most assimilable forms of iron.

The gravity of the symptoms increased rapidly; the simple act of rising from her chair caused dyspnœa, food of all kinds was very repugnant, the skin grew more sallow and the feet œdematous. She vomited occasionally, especially after any unusual movement. Temperature 100°; pulse weak, 90 to 100. This rapid change for the worse made me feel that the case must be either one of pernicious anæmia or some concealed organic disease, and I therefore asked for a consultation.

Dr. R. T. Edes saw the patient with me, March 16th. He did not think the anæmia profound enough to warrant a diagnosis of pernicious anæmia, but as he could find no proof of organic disease, he advised full doses of liq. pot. arsen., and gave a very guarded prognosis. A microscopical examination of the blood showed the red corpuscles notably diminished. No increase of white corpuscles and none of those irregular forms of red corpuscles characteristic of pernicious anæmia. The patient was kept in bed and fed per rectum as well as by mouth.

She improved for a time under this regimen, the dyspnœa becoming less troublesome so that during part of April and May she was able to go down stairs and to ride out occasionally. In fact the dyspnœa did not trouble her again to any amount till just before her death. I never felt, however, that the improvement was permanent, for her color remained bad, and she did not gain flesh nor appetite.

Early in July she complained of fluttering in the epigastrium and her distaste for food wasso great that only the force of a strong will enabled her to eat or drink. The abdomen was again examined, slight increase in liver dulness was noted.

On August 16th, she had a sharp attack of hepatic colic followed by intense jaundice and so much nausea that she was fed entirely by rectum for five days. She rallied very slowly and now began to lose flesh quite rapidly.

On the fourteenth of October she had another attack of hepatic colic, and passed a gall-stone the size of a pea. After this the signs of digestive disturbance were more marked. She complained constantly of a burning pain under the lower end of the sternum coming on about two hours after eating. She also complained of a feeling of weight in the bowels when she sat up as if some heavy body were dragging from the spine. As she was certainly the least nervous or imaginative person that I ever met, these symptoms deserve more attention than they would in ordinary cases.

The bowels were either constipated or relaxed. The stools varied, being sometimes perfectly normal in appearance, sometimes sticky and putty like, sometimes gray in color, often they contained undigested food. Throughout her illness every stool was examined by her daughter, an unusually intelligent lady, and I saw many of them myself, but never could see or hear of any of the fatty stools considered to be characteristic of pancreatic disease.

Early in February, she began to vomit irregularly and complained constantly of distress after eating. She never had another paroxysm of hepatic colic, but

she grew deeply jaundiced, vomited constantly for five days, the feet and limbs became œdematous, the pulse rose to 120, and death seemed imminent.

During all this time no tumor of any kind could be felt in the abdomen, nor was there any tenderness nor tympanites except just after the attacks of colic. It seemed to me, however, that there must be some disease, probably malignant, in the region of the duodenum, liver or head of the pancreas, but wishing to get all the light that greater experience could give, I asked Dr. M. Wyman to see her with me. Dr. Wyman thought the case was either one of pernicious anæmia or malignant disease, probably the latter.

The vomiting gradually ceased and she rallied slightly again, and from this time January 4th, till her death February 14th, it did not recur to any extent. She now began to suffer from what she called "nervous twitches." She insisted that she had no pain, but she lay as if prostrated, moaning with every breath, her features pinched and deathly pale. In fact, her appearance was exactly as when she was suffering from hepatic colic, except that there was constant twitching of the feet and legs, and occasionally of the arms. These movements were to a certain extent, but not entirely, under the control of the will. The attacks came on at first only occasionally, but they grew more and more frequent, until during the last two weeks of her life, it was necessary to keep her constantly under the influence of sedatives to give her any rest from them. She grew gradually weaker, and died February 14th.

Autopsy, twenty-six hours after death. Rigor mortis well marked. Skin a dirty yellow. Body and limbs much emaciated. Owing to circumstances which so often hamper the performance of autopsies in private families, I was only able to examine the abdominal cavity.

The muscular layer of the abdomen was very thin. The abdominal cavity contained a small amount of clear serum. The intestines looked very anæmic. The small intestines were contracted, the large intestines unusually long and somewhat distended, the walls in some places so thin as to be almost transparent. No trace of peritoneal adhesions or inflammation.

Liver slightly enlarged, rather pale, yellowish, surface perfectly smooth but rather firm in texture.

Gall-bladder the size of a large pear containing three large, and many small gall-stones. Bile very dark and viscid.

Stomach empty, walls very thin; not the slightest appearance of malignant disease in the stomach or duodenum. Upon raising the stomach the pancreas was seen, larger than normal, dark gray in color and so firmly adherent to the vertebræ and posterior abdominal walls that it was detached with great difficulty. The attachment to the duodenum was also over a larger surface than usual; the gastro-splenic omentum much thickened. Upon removing the pancreas, it looked so large and firm that I felt assured that there must be a deposit of cancer in the head and that the diagnosis of malignant disease was correct. The specimen was placed in alcohol for further examination, but it was, found impossible to harden it; in fact it grew softer, and large quantities of fat seemed to have been dissolved out by the alcohol and floated upon the surface. A microscopical examination, in which I was kindly assisted by Dr. Blodgett, showed a large increase of connective tissue, an abundant deposit of pigment, with very little trace of acini or glandular epithelium, a considerable amount of fatty degeneration. The specimen, as I show it to-day, gives a very poor idea of its appearance when removed from the body. Its size has diminished at least one-half, by its seven months' immersion in alcohol, while the texture is softer and more friable. The portion of duodenum attached shows the opening of the ductus communis and the canal of Wirsung. The gall ducts are dilated very much. The opening of the portal vein is seen toward the head, while the superior mesenteric artery runs along its posterior surface and the splenic along its upper border.

I bring the case before the society as one of pancreatic disease, although I am quite aware that it may be an open question how far the condition of the pancreas was answerable for the symptoms. There is so little known of the pathology of this organ, that it seems right that every case in which an abnormal condition is found, should be recorded. Almost all reported cases are those of carcinoma, in which it is very difficult to separate the symptoms common to many carcinomatous growths, from those due to injury of the gland. Moreover, in most of these cases the disease has extended before death to neighboring organs.

Experiments of removing or destroying the pancreas in animals, show diverse results. While in some, rapid emaciation, fatty diarrhœa, and death from inanition, rapidly follows, in others the pancreatic secretion seems to be replaced by some other digestive fluid, so that the nutrition of the animal suffers very little. This is notably the case in the experiments lately published by Senn in his articles on "Surgery of the Pancreas."

The chief symptoms supposed to indicate pancreatic disease are rapid: emaciation, jaundice, diarrhœa and constipation, fatty stools and cœliac neuralgia; but no one of these symptoms seems to be invariably present, and only one, the fatty stools, pathognomonic. In about twenty-five cases which I have been able to collect of disease of the pancreas, mostly malignant, in only two were the fatty stools prominent, though doubtless in many, search for them was not made, as the disease was not diagnosed before death.

A symptom mentioned by Friedreich, in "Ziemssen's Handbook," and by Starr in "Pepper's System of Medicine," is a feeling of weight in the epigastrium, particularly on assuming the erect position, as if a heavy body were pulling from the spine. This symptom was constantly complained of by my patient, so long as she was able to sit up. I cannot help thinking that the paroxsyms of nervous distress which were the cause of so much suffering to her were some form of nervous disturbance produced by pressure on the nerve structures surrounding the pancreas, and were analogous to the attacks of cœliac neuralgia mentioned by many authors.

Although all writers on pancreatic disease describe a chronic hyperplasia of the connective tissue of the pancreas as one of its diseases, I can find the record of only one case which seems somewhat similar to the one I have here described. This was reported by Dr. Tyson in the *Philadelphia Medical Times* in 1882. The case was that of a lady sixty-eight years old who had always been well until an attack of pneumonia in February, 1880. From this time she had more or less disturbance of the bowels. In July, 1881, she was seized

with severe diarrhœa and clay-colored stools. This was quite persistent, and accompanied by irregular distention of the abdomen apparently from areas of flatus. Later, a small indistinct lump was discovered below the umbilicus and to the left. The diarrhœa continued, and the stools were distinctly fatty. She emaciatied rapidly, and died March, 1882.

At the autopsy, the lump had disappeared behind the stomach, but was found to be the head of the pancreas, which was unusually resisting but not much enlarged. Upon examination the secreting structure of the pancreas was found to be nearly all atrophied, and its place occupied by a fibrous tissue. In this case, also, the organ was so much shrunken and altered by the preserving fluid as to present a far less striking appearance than when removed from the body.

But in addition to the condition of the pancreas itself, I wish to call your attention to the parts surrounding it, as it seems to me that we may find there an explanation of some of the symptoms not otherwise accounted for. The adhesions between the head of the pancreas and the vertebral column were so firm, that I was obliged literally to dig the gland out of its bed. The connective tissue seemed almost leathery in its toughness and resistance.

You will remember that the cœliac axis gives off its branches just at the upper border of the pancreas, the semilunar ganglia of the solar plexus lie partially behind the gland, while the superior mesenteric is given off from the aorta just at its lower border. In this case, as will be seen by the specimen, the superior mesenteric is given off above the pancreas, and runs across its whole posterior surface, and therefore could hardly fail to be compressed between it and the spine, where the adhesions were so firm as in this case. Even a moderate amount of compression on the artery supplying the whole of the small intestines, would probably modify their nutrition, and render their digestive fluid unable to supply the want of pancreatic secretion, as it probably does in some cases. The semilunar ganglia would be even more easily compressed than the arteries. Since they are the sympathetic nerve-centres which modify the nutrition of all the organs of digestion, any injury to them would probably affect the proper performance of the function of those organs.

There is no doubt that the attacks of hepatic colic were instrumental in hastening the fatal termination of the case.

I suppose it may be asked whether this was not really a case of pernicious anæmia, and the condition of the pancreas, etc., only a secondary result of the anæmia, instead of being its cause. Against this, speaks the age of the patient, her comfortable circumstances and regular life, the high degree of emaciation, the absence of fever, and the fact that at the autopsy, the organs though anæmic, had not that absolutely blanched appearance, described as characteristic of pernicious anæmia.

I hope, however, that those who have had more experience than I have in this disease, will give the Society the benefit of their opinion on the question.

— The following epitaph is "said to" have recently been placed on the grave of a dentist in London:

"View this gravestone with all gravity
J —— is filling his last cavity."

Clinical Memorandum.

A CASE OF CALCIFICATION OF THE AORTA.

BY FREDERICK W. TAYLOR, M.D., OF CAMBRIDGE, MASS.

MRS. B., aged sixty-three years. Had enjoyed fair health, and had always lived in comfortable circumstances. Her father died suddenly, the cause said to have been apoplexy. Two uncles died while suffering from gangrene of the toes. One sister died in an insane asylum; another sister is living, but is said to be "fussy and nervous"; a third, much younger than Mrs. B., is in good health; one brother has hemiplegia.

September 18, 1887, Mrs. B. was in a small boat, fishing, between three and four hours. After returning home she ate a hearty dinner, but felt no discomfort from it during the evening. She passed a rather restless night, and the next forenoon had pain in the epigastrium and vomited, throwing up the food she had taken the day before. Abdominal distress and retching continued severe, and were relieved during the afternoon only by large and repeated doses of morphine.

September 20th. Patient comfortable, sleeping most of the time. The pulse remained high as compared with the temperature, not falling below 120, and at times being 140.

September 21st. Objected strongly to taking nourishment. In the evening, temperature, 98.5° F.; pulse small, 120; face pale; epigastrium tender. During the next two days she took nourishment, was comfortable, and gained strength.

September 24th. In the forenoon she walked from the bed across the room and urinated, as she had done several times before, thinking to defecate also, she remained upon the chair straining, when her feet began to prickle and be painful; she was assisted to bed; the unpleasant sensations extended to the thighs; the limbs were at once rubbed, when it was discovered that they had lost all tactile sensation; they soon became cyanosed, and circulation in them entirely ceased. Both lower extremities were equally affected. Great general distress followed, which was only relieved by large doses of morphine and brandy.

September 26th, A.M. Temperature 95°, pulse 120; mind clear; skin cold and moist; lower extremities very rigid, as if in extreme rigor mortis, and cyanotic except a small portion outside of the thighs. At the junction of the living and dead flesh there was great sensitiveness to touch and motion. Progressive failure till death, which took place at 12 o'clock the night of September 29th–30th.

AUTOPSY. October 1st, 40 hours after death. Body fairly nourished. Portions of skin of legs and thighs bright red, but no advanced decomposition; limit of redness at upper part of thighs very distinctly defined.

Heart. Dependent portion very dark red; right side filled with dark, soft clots; small atheromatous spot in rim of left auriculo-ventricular orifice, but no ulceration over it; curtains of all valves normal; no indication of endocarditis or cardiac thrombosis.

Aorta. Very firm calcification of anterior wall from the bifurcation into the common iliacs upward two and a half inches. At this place was a complete, ly obstructing adherent clot, with prolongations into the iliacs. The upper portion of this clot (about an inch in length) was firm and light colored; the lower

portions and the prolongations into the iliacs were darker and less firm; between these portions was a third, measuring one-half to three-quarters of an inch in length, and occupying the entire calibre of the aorta, which was very soft and dark red.

Other organs were normal as far as examined.

Reports of Societies.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

Regular meeting, at 19 Boylston Place, Wednesday, November 9, 1887.

Meeting called to order by the Secretary, Dr. Albert N. Blodgett, at 3.00, P.M.

A ballot for President of the Section for the coming year resulted in the choice of Dr. A. L. Mason.

Dr. Mason not being present, Dr. V. Y. Bowditch was chosen chairman *pro tem.*

On motion of Dr. F. H. Hooper, a vote of thanks to Dr. F. I. Knight, the retiring chairman, was passed.

Under the head of incidental business, Dr. Blodgett read a note which had been sent him by a member of the Society, in which was a complaint that due notice of the meeting of the Section had not been received. In explanation of the fact, Dr. Blodgett said that the delay had been caused by an unexplained delinquency of the mail service, whereby the proofs were several days on the way from the mail-box to the printer. Every effort had been made to get the notices out in season by having a large corps at work directing them, and in the haste some names may have been inadvertantly overlooked. Dr. Blodgett was very glad that attention had been called to this matter, as it showed the interest which was felt in the meetings.

The Secretary then read a personal communication from Prof. F. W. Putnam, of Cambridge, to Dr. Bowditch, giving an invitation to the members of the Medical Society to inspect the relics which have been collected in Cambridge relating to the subject of American Archæology, and to listen to a talk upon the subject of the recent explorations.

Dr. Knight said: It certainly is not necessary to say a word to any one who has ever heard Professor Putnam, in regard to the interest of his communication, in whatever line he may choose to make it. It will be certainly a very interesting thing for every medical man, and I propose, sir, that the Secretary be authorized to make arrangements for a meeting in the Museum in Cambridge on some Wednesday evening when there is no Section meeting. I would suggest that the invitation be extended to all the Suffolk District Medical Society. The motion prevailed.

The Secretary then asked when the report of the committee which had been instructed to look up the matter of the milk-supply of Boston, would be ready.

Dr. Cushing replied that the report had been made out and signed, and would be submitted at the next meeting of the society.

Dr. F. O. Otis read a paper entitled:

HINTS TO PHYSICIANS SENDING THEIR PATIENTS TO COLORADO.[1]

Dr. F. I. Knight said: I certainly agree with all that Dr. Otis has said about the climate of Colorado, as far as I know it. I think we ought to be very much obliged to him for the details he has given us in regard to the points which many physicians certainly do not understand. There is another point which ought properly to come up, although Dr. Otis did not feel necessitated to notice it in his paper. I think a warning ought to be given, whenever the subject comes up for consideration, at any rate when it is presented to those who are not familiar with the subject, in regard to the cases which are to be excluded from that climate.

It is too much the fashion, when a climate becomes popular for the relief of any disease, for all patients with that disease to be hustled off there. And this is just as much a mistake as it is for every case of pneumonia to be treated with the same drug. It is very much like the treatment of disease with a little book of symptoms.

There are certain kinds of consumption that will die very much quicker in Colorado than they would if they stayed at home, and it is certainly very much wiser for a physician, unless he has considered his case for a long time, and perhaps has counsel upon it, to keep at home cases of very advanced disease; also, to keep out of that climate cases attended with a good deal of fever, and very possibly, also, those cases of a highly wrought nervous temperament. To be sure some of these latter cases do well in Colorado, and some even of the advanced cases.

One case I have in mind, which was taken out there without my consent, not exactly against my remonstrance, which after a long time did do well, although it was a case of very advanced phthisis. As a rule, it is very much safer not to be in haste, at any rate, to send these cases to a high altitude. It certainly has been my experience, and I have had cases of pulmonary disease treated in almost every climate in the world, that the cases of lung disease which are free from fever, and where there is tolerable strength and constitution to start on, do far better in a climate of that kind, a high mountain climate, than in any other; and I think that all climatologists are fast coming to that opinion.

In the cases of very advanced disease, in those cases particularly where there is a good deal of febrile disturbance, it is possible that after a time, after the activity of the disease has been mitigated at home, that patients may be removed there with safety; and this is a thing for consideration.

There is another point which we must also bear in mind, which must be urged upon the minds of men, that in regard to it they may not act hastily, and that is in sending poor patients off there with the idea that the climate is going to do everything for them. As a rule, if a man has extensive disease of the lungs, and is going to work for a living, he had better be advised to save his money and stay at home. He had better do as well as he can among his friends, and not waste the little that he has accumulated in a change of climate, for his money will go in a very short time out there, and he will be left stranded and unable to

[1] See page 569 of the Journal.

work. It is a great pity, it seems to me, to send off, as some physicians seem to be in the habit of doing, every case of pulmonary disease, without regard to their circumstances. Almost every day cases come to me who have been urged to go to Colorado or California, or New Mexico, patients who have perhaps accumulated a few hundred dollars, which is all they have in the world, and they are advised to make a change of climate on account of lung disease. They would be left stranded. I should say that unless the patient had very little disease, and it was perfectly clear that he was able to work, and certainly it is not so with the most of these cases, they would better be advised to stay at home, unless they have means of living a considerable time without any active work.

DR. ALBERT N. BLODGETT said: Mr. Chairman, I had an opportunity, some years ago, of investigating the climate of Colorado, although not so extensively as Dr. Otis has done, and I was struck by one or two things that have been mentioned, and some that have not been alluded to. In the first place, the distance is so great that many patients who start in fairly good condition are very greatly fatigued by the journey. Under any circumstances it is extremely taxing for an invalid. The journey is a long one, and I think that, with ordinary expedition, a week would be thus consumed. I have seen patients who, from fatigue, have seemed to die sooner there than they would have done if they had remained at home.

I have supposed that cases in an acute stage of pulmonary phthisis should not be sent to that climate. I think the abruptness with which the change would be made, and the high altitude reached, for persons whose pulmonary structures have been invaded by phthisical disease, is a question which should have more consideration than is usually given it. I have seen healthy persons suffer from shortness of breath on arriving in Colorado to such a degree as to make any sort of exercise burdensome for some days. I have seen others, in Switzerland, who have had a rush of blood to the head, in an altitude as high as Colorado Springs, which was relieved by frequent nose-bleeds. I have seen the same thing in Colorado.

Perhaps it would be better to break the journey for the sake of lessening the fatigue, and also in the hope of accustoming the pulmonary structures which are already diseased, to the rarer air, rather than to make a hasty journey, and perhaps put a feeble patient in a less favorable condition for improvement than he would be in with a little more attention to this precaution. I can certainly verify everything that has been said, so far as my experience will go, in regard to the wonderful climate which is found in this part of our country. I had an opportunity of seeing a part of Colorado, although it was a very small part, located in the vicinity of Denver and Colorado Springs, and the parts between, and I never saw anything like the clearness of the air in this region. The exhilaration is something remarkable — certainly in a healthy person — and I have no doubt it would be the same, to a certain degree, in a sick person.

I cannot help thinking that the climate of Colorado is the nearest to a typical climate for consumptives which we know anything about; but I believe that far greater care is requisite in the selection of cases, and far more caution in changing to that climate than has heretofore been observed.

DR. H. O. MARCY said: Unfortunately I did not hear the first part of the paper, and possibly it may furnish a little wider range to the discussion if I should diverge to other sections of our country. I have had certain experiences in Montana, although Colorado I have not myself visited. The experiences of certain patients that have been sent from time to time to western ranches would correspond to what has been said. I think we are under obligations for the paper. It does teach us a good deal in reference to the classification of patients. If there be anything which my own experience would emphasize, it is in regard to the objection to sending patients into the wilderness away from home. There is a good deal of emphasis to be laid, too, upon the distance and the expense.

Two years ago I made a pretty careful study of the Appalachian range in Georgia. I believe there are certain of the Alleghany ranges which ought to be taken into consideration in sending patients from our own vicinity. There is the change in life, the distance in reference to diminished expense, and the expense of living after one is there. In the western sections there are a great many places where one may live profitably by making it home for investment. So far as elevation is concerned, there are valleys in certain sections up two or three thousand feet. This is inconsiderable in comparison with Colorado, but very considerable in comparison with other elevations. Eight-tenths is still primeval forest, which equalizes temperature.

It is not as dry a climate as Colorado. The rain fall is probably not less than in New England, though it is placed on the maps as being dryer than any other section — than the Colorado ranges. I saw a number of invalids who felt sure that they could not live on our sea-coast border, men who had cavities and had had hæmorrhages, and who were in pretty fair health. I have myself sent forty or fifty patients to this section, and, although they have different results, in the main it is as satisfactory as double that number of cases who have gone to Colorado. Ample board can be obtained with half the money. The expense of going is less than half, and sometimes a distinct advantage is gained in the fact of the invalid being much nearer home.

The air there is as pure as can be found in any part of the world. The mountain tops are covered with snow three or four months, the valleys only three or four days at a time. The locomotion is, on horseback, *par excellence*. Every other way is uncomfortable in the extreme.

DR. OTIS asked what special towns were recommended.

DR. MARCY: Ashfield is the centre. Its population has doubled within two years. There are several hotels there. Notably the Battery Park (?) Hotel. That is an expensive hotel; four dollars per day. But Ashfield furnishes very good accommodation at ten to fifteen dollars per week. Certain other places are extremely cheap. I spent a week in one of the little hotels. When I asked for my bill, I was told that a dollar a day was the regular price, but as I had been there a week four dollars would be enough. In Waynesville, hotels are springing up everywhere in answer apparently, to a legitimate demand which is being made as the country is becoming better known.

DR. R. W. GREENLEAF said: It was my good for-

tune to visit Colorado some summers ago, and while I should like very much to speak on the very great beauties of the place I think those have already been spoken of; but there are one or two medical questions relating to it in which I differ from what Dr. Otis has said. First, in regard to whether the patients who are sent there ought to go right about their exercise or not. It seems to me that it would be far wiser for them to remain at rest for some days. A well person is quite fatigued by the altitude, even in such a place as Colorado City. I was perfectly well all the time I was there, but even a half-mile fatigued me for some days; after that I could walk indefinitely as at home.

Instead of remaining in Colorado City or in the towns, where there are all the drawbacks of dust and residence in cities, why is it not wiser to advise the patients, if they can afford it, to go into the mountain regions and be in camp all the time? To be sure, some things are hard, but they can be lightened in many ways. Changes of heat and cold are very noticable. It was very warm at midday, and the water was almost frozen at night. It seems to me that it is far wiser for the patients to go into the mountains as soon as they are strong enough to undergo such extremes, so that they could be out of doors all the time. I was very glad to hear what was said about the selection of cases, for I met many cases who were coming back simply to die. It seems to me that it is a mistake to send other than select cases.

Dr. Otis said: I would like to say a word or two in answer to Dr Greenleaf. I did say that comparative rest is enjoined, and probably is essential. I did not mean to say that I believe in activity as soon as the patient arrives in Colorado Springs. It seemed to me that some of the patients, after they had been there a year, were sitting about on the veranda when it did seem as if they would do better if they moved.

In regard to the patient going at once into the mountains, the practical difficulty is that you cannot get good food. Unless he is pretty well and strong, the patient could not endure it.

I don't quite agree with what Dr. Knight said about poor people going out there. It seems to me it makes a difference what sort of a person it is. I remember one poor young man with no money, a clerk in a store. His employer gave him a present of fifty dollars, and he went out there. He had serious trouble with his lungs, and was told to keep still. He got a horse and rode about, and soon made friends with a cattle-man who employed him and paid him a fair monthly salary, and he seems getting on well. I remember another instance of a young man who had money enough to stay awhile, and found employment. He finally bought his employer out. I think it depends on the kind of man who goes.

Dr. E. L. Call then read a paper on

A CASE OF CHRONIC PANCREATITIS, WITH SYMPTOMS RESEMBLING MALIGNANT DISEASE.[2]

Dr. C. P. Putnam said: It seems to me that this case has been laid before us in a very interesting way, and that anything which adds to our very meagre information upon the pathology of the pancreas is most welcome. I suppose that in most instances where the pancreas is at fault other organs are at fault too, as in this case. In one case which is very prominent in my mind, where the pancreas was affected by malignant disease, the same disease was found in other organs of the body, notably in the liver. There, too, there were no fatty stools, and Dr. Call has mentioned that the fatty stools were prominent symptoms in only two out of ten cases. So that certainly the pathology of the pancreas seems to be more obscure, the more it is looked into. This case was seen by several physicians, and the disease was not suggested by any of them. The patient had a great deal of pain in the abdomen, but there was no reason to suppose that it came from the pancreas any more than from any of the other organs where the malignant disease was situated.

Dr. Knapp asked if any sugar had been found in the urine.

Dr. Call replied that repeated examination had failed in finding any.

Dr. Knapp asked whether any microscopical examination had been made to show whether the wasting of the intestinal and gastric walls was due to atrophy of the muscular coat simply, or whether it was an atrophy of the glandular tissue of the stomach and intestine.

Dr. Call: No examination was made, I am sorry to say.

Dr. Marcy: I have a case under care now that is, perhaps, worth reporting. It was at first supposed to be malignant disease of the abdomen. It has been under my observation for six months. He was a stout, robust sailor, never sick until six months ago, when he began to have slow wasting with vomiting and a whole series of symptoms, until last summer he had wasted so much that it was supposed to be a case of malignant disease. He was anæmic, pulse running up to one hundred by walking across the room. It was supposed to be a pretty clear case of obscure malignant disease.

About six weeks ago he began slowly to develop a cystic tumor in the region of the gall-bladder. Six days ago I made a laparotomy, stitched the gall-bladder into the wound, washing out about half a teacupful of pus and mucus. The hope was, although he had never been jaundiced, that something could be found. But, at about the head of the pancreas was a distinct bunch, about the size of the end of the thumb, hard and resisting. It remains to be seen just what it is. The inference is that it is malignant disease of the head of the pancreas. During these six days the patient has had relief. Discomfort of almost every type has departed. The temperature remains pretty nearly normal. I have no doubt it will go on to death, and perhaps in an autopsy we shall know more about it.

Dr. Douglas Graham then read a paper on

LOCAL MASSAGE FOR LOCAL NEURASTHENIA.[3]

Dr. Knapp said: These cases of Dr. Graham read almost like fairy stories. I would like to ask if he has any less favorable ones to report, or if they all terminate in this happy way.

Dr. Graham: I think we all see cases that are foregone conclusions from the first, and it is only a question of filling in time with them. They are bound to be treated any way, and I give simply cases that can be benefited.

Dr. Knapp: The same treatment seems to have been applied to the different cases. What cases are not suitable for this treatment?

[2] See page 576 of the Journal.

[3] See page 572 of the Journal.

DR. GRAHAM: I should regard extreme weakness as a contra-indication.

DR. PUTNAM said: On one occasion the suppleness of the scalp which was acquired by the massage was spoken of as one of the good results which affected the recovery of the patient, I should like to ask if the condition of the scalp was supposed to be a cause of, or intimately connected with, the disease of any organ.

DR. GRAHAM: The hardness might be the starting point for almost any reflex disturbance.

DR. PUTNAM: Do you think it was a prominent symptom?

DR. GRAHAM: It was one of the cases that are born neurasthenic.

DR. PUTNAM: It is very certain that manipulations upon the body do have great effects. Exactly what effects they have seems to be hardly determined.

DR. H. J. BARNES said: Dr. Graham speaks of one of his patients having extreme pain over one of the condyles. Not intimating the cause of that pain, have you any idea what caused it? Was it of a rheumatic nature?

DR. GRAHAM: I think it is of nervous nature. I suppose it might be called a hysterical knee-joint. The symptoms would not show sufficient disturbance there to account for the pain. I suppose you would call it nervous pain, if any one knows what that means.

DR. BARNES: I would like to know if massage will stop women from complaining of pain in the side when recovering from uterine trouble.

DR. GRAHAM: It might be relieved, but quite likely it would appear somewhere else.

DR. PUTNAM: Are these effects somewhat analogous to hypnotism, or are they to be considered purely mechanical?

DR. GRAHAM: I think the change comes from the improved circulation, the improved nutrition, and in some cases from the setting free of the nerve filaments so that the tissues may glide freely over each other.

DR. PUTNAM: I suppose some of the cases are connected with trouble in the cerebral tissues themselves. Do you think the massage has a reflex action upon the cerebral tissue?

DR. GRAHAM: Quite likely. Another instance where relief can be afforded is in cases of constipation from deficient innervation. Here massage should be applied to the back and abdomen. Sometimes, too, when the heart is irregular and there is shortness of breath. In one of these cases that was quite marked, I have seen temporary relief given while massage was being used. Of course he could not have it done frequently and I referred him back to a physician for a tonic which he could have oftener than the massage.

Also, there is muscular asthenopia, where great benefit was received from massage of the temples, eyelids and head. The resistant movements were quite a revelation to him the first time I tried them. No doubt it sends blood through the brain much more lively, and promotes absorption of lymph and effete matter. Communications have been demonstrated between the vessels and the spaces in the dura. Of course a quicker absorption would take place.

DR. PUTNAM: The doctor spoke of deep massage in diseases of the heart. Does he mean local in the region of the heart, or in the whole body?

DR. GRAHAM: In general; that statement has been confirmed by Dr. Eccles of London, in the June *Practitioner*.

DR. PUTNAM: I don't mean to throw any doubts on Dr. Graham's statements, but I think it is very hard to find a reason for the decided effects which are produced. I think that anything which would lead to the clearing up of the mystery would be a very interesting study.

OXYGEN TREATMENT IN PNEUMONIA.

DR. V. Y. BOWDITCH said: I wish to speak of a method of treatment which I have been using for the past two days at the Carney Hospital, which was very striking; and that is the inhalation of an oxygen compound, as manufactured by Dr. Walton, of Orange, N. J. About three months ago Dr. Walton came to my office with this preparation, which he claimed he should not put forth by advertising. He claimed that he had a purer preparation than had been placed before the public before. We all know the vaunted advantages of the compound oxygen. This preparation is said to have two atoms of nitrogen to one of oxygen. He claimed that the beneficial effects would be found in phthisis. I have used several tanks in that disease with negative results. I have been waiting for a disease like this.

Day before yesterday a man came in with very marked evidence of pneumonia in the lower lobe of the right lung. There was bronchial breathing; the respirations were sixty; there was marked cyanosis. I said, We have a case now. The man took a few inhalations. He had not taken it ten seconds before the look that came into his eyes spoke more than any words than can be uttered. In half a minute his respiration was fifty. The respirations had changed to comparative ease. The color also changed. I kept the tube in his mouth for about a minute, he breathing through the nose all the time, and so wasting the oxygen. When I removed the tube, I said: "Did you get relief from that?" And the whole look when he said "I guess so," was enough. I gave orders that he should take it every two hours. It carried down the respirations ten a minute. I had also put him upon aconite, a drop every hour. The next morning the pulse, instead of being 120, and bounding, was 98, and of good strength. The respirations had come down to forty, and, although the condition of the lung had not materially changed, yet the character of the respirations had entirely changed. I ordered the oxygen to be continued occasionally, and it has been kept up to the present time. I mention this because I think it can be tried by other physicians in similar cases. Metcalf & Co. are agents for the tanks, and I think have some still, although Mr. Metcalf told me the other day that he should discontinue the agency. I shall write him that I have had apparent success in this case, and that I think it would be well to continue it a little longer, and see if other physicians cannot have similar results.

Certainly if we have anything that will relieve the fearful distress it will be a great gain. The gas comes in cylindrical tanks, under a pressure of 250 pounds to the square inch, and one should last several days in a pneumonia case. It is simply passed from the tank through a wash bottle, and then into the patient's mouth.

DR. CUSHING: How long?

DR. BOWDITCH: I kept it in the mouth about a

minute. He was breathing through the nose all the time. He kept asking for the oxygen, on account of the relief.

DR. CUSHING: Is this gas any different from what a mixture with air would be?

DR. BOWDITCH: I cannot say. He claims it a mixture of oxygen.

DR. CUSHING: As long ago as when King Humbert died it was tried. I think it has been considerably used in Italy and Germany. It is given mixed with the air in a bag.

DR. MARCY: For a number of years I have been using oxygen for this purpose. I have not felt that it was a curative thing. I use gas from the calcium-light company. They have made a gas which they sell for three dollars a tank, and which is always ready. I use those that are used for the oxy-hydrogen light. I have been in the habit of letting the gas from the tank through the tube, and the patient breathes as he pleases. I have never seen any bad effects.

DR. BOWDITCH: I don't think it has any curative effect, only that it is a means of relief.

DR. MARCY said: My own impression is that it would be of great benefit if used early. The moment the patient has very much discomfort let him have the oxygen. I would gladly recommend it, but was disappointed in not meeting with better results.

Meeting adjourned.

NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, November 21, 1887.

DR. DANIEL BROWN read the history of a

FATAL CASE OF VESICAL CALCULI.

The patient was a man of sixty-one, who was born in Palestine, of Turkish parents. Complaining of inability to pass his urine, accompanied with much distress, he applied to Dr. Brown, who found that the penis was of unusually small size, and that the meatus was occluded with some hard substance. He incised the meatus, which was of very narrow calibre, and removed several calculi. After this, he continued gradual dilatation of the urethra until a No. 18 sound could be passed, and at no time during the dilatation was any evidence presented of stone in the bladder.

After this the patient had no further trouble for two years, when he again presented himself, suffering from stoppage of urine. Calculi were again found in the urethra, and every day for a considerable time some were removed. On one occasion, in endeavoring to get into the bladder, which was now quite a difficult matter, Dr. Brown's assistant made a false passage. There was marked cystitis, and the patient gradually sank. After death, the bladder was found to be full of calculi.

The question naturally arose: was this a large stone which had spontaneously ruptured, or were there originally a number of small stones, which formed in the kidney, and received accretions in the bladder? The shape of the calculi seemed to indicate that the former was the correct hypothesis, and this was also rendered the more probable by the complete absence of renal colic during the history of the case. In conclusion, Dr. Brown alluded to instances recorded by various authors, in which there were a large number of calculi, one of them being the case of Chief Justice Marshall, related by Gross, in which Dr. Physick found over one thousand.

The bladder, which had not as yet been opened, was now presented by DR. J. W. S. GOULEY, to whom Dr. Brown had given it for the museum of the New York State Medical Association. He said that it had contracted to some extent since it had been placed in an alcoholic solution, and that, to the touch, it felt like a bag full of coarse gravel. On laying open its cavity in the presence of the members, he found that its walls were somewhat thickened, although not to such an extent as might have been expected. The calculi which it contained reached to the upper fundus. On emptying them out, he found that there had been a spontaneous fracture, not of a single large stone, but of a number of smallish stones, nearly all of which had been too large to be expelled spontaneously. There was, however, no urethro-vesical obstruction, such as would have been caused by an enlarged prostate, and there was, therefore, no reason why some of them should not have been discharged in this way. The mucous membrane was found to be more or less columnar, and in it were a number of little pouches. One of them was large enough to admit the end of the little finger, and at this point there was some ulceration of the membrane.

This, then, Dr. Gouley said, was a case of multiple calculi, and it was one of a very puzzling character. Many explanations had been offered for the spontaneous fragmentation of large stones in the bladder, and there was, indeed, scarcely an authority in this department of surgery who had not brought one forward. But in the present instance not one of them was applicable, and he was at a loss how to account for the condition of affairs met with. Taking up a number of the pieces, he said that he held no less than eleven distinct nuclei in his hand, and that there was not a single entire stone in the mass found in the bladder, which would probably weigh over a quarter of a pound. The case was one of great interest, and he felt sure that even if the diagnosis had been made easily, the result would have been the same. The extraordinary feature of it was the spontaneous rupture of all these stones.

DR. J. R. MACGREGOR related a case occurring in his practice some years ago, which, he said, very appropriately supplemented that of Dr. Brown, and which also illustrated very markedly the fact that there sometimes existed unknown conditions which could not possibly be diagnosed beforehand. The patient referred to was a married lady of sixty-three, who had had no children. She came to him stating that she had had a great deal of pain for a long time in the hypogastric region, and bringing with her a box containing more than three hundred and twenty calculi, which she had voided from time to time.

A vaginal examination revealed the fact that a number of calculi could be felt with the fingers, apparently in the bladder. A further examination was made at her own home, when gradual dilatation of the urethra was accomplished with sounds, and a narrow-bladed pair of forceps introduced into the bladder. Nothing like a stone, however, could be detected, and this attempt gave rise to so much pain and distress, that the patient declined any further interference for the time being. She then went out of town for the summer, but by the time that she returned her suffer-

ings had increased to such an extent that she was willing to submit to any procedure that promised relief. The late Dr. Studley was called in consultation, and, ether having been administered, the urethra was gradually dilated until the finger could be introduced into the bladder. No calculi were found loose in the latter, but plenty of them could be felt, covered, apparently, with some sort of a membrane, and it was concluded that the calculi were encysted. With the finger-nail and a pointed instrument, the supposed membrane was ruptured, and two calculi, each about the size of a grain of corn, were extracted. The others that were felt receded beyond reach when the effort was made to get at them. The discovery was then made that there was also a stone present of very large dimensions, but it was deemed imprudent to attempt anything further on this occasion. The patient had taken ether very badly, so that at one time it was necessary to resort to artificial respiration and hypodermic injections of brandy, and she died in about forty-eight hours.

At the autopsy, there was found in the pelvis an organ resembling a uterus at the fifth month of gestation; and, on section, there was discovered in it one stone of enormous size, together with a large number of small ones. The organ which contained them proved to be the left kidney, which had become displaced, and occupied the ordinary situation of the bladder. It was flattened out like a large sac, and in it were found more than five hundred and twenty calculi, while some additional ones were lost in the abdominal cavity. The large stone, which Dr. MacGregor now presented, was somewhat pear-shaped, and weighed no less than fifty-one ounces. It was six and three-eighths inches in its longitudinal axis, and measured sixteen and five-eighths in its larger circumference, and twelve and one-half inches in its smaller circumference. At each end there was an area where the surface had been polished off by contact with the small stones. The mass had never been sawn through, but was supposed to be composed mainly of uric acid, although the exterior was thoroughly encrusted with earthy phosphates.

Dr. MacGregor then proceeded to give an outline of some of the recorded cases of unusually large stone, commencing with that of Sir Thomas Adams, Alderman and Lord Mayor of London, who died in 1667, at the age of eighty-two. In conclusion, he said that with the exception of the stone in the possession of Dr. Liston, the one now exhibited was the second largest stone on record; and that when its association with a large number of small stones, and its position in the kidney, and the abnormal conditions arising therefrom, were considered, this was certainly to be regarded as a case of the greatest interest.

DR. ALFRED L. CARROLL inquired if there was an evident opening between the kidney and the neck of the bladder. If the stone had a phosphatic coating, he could not see how this could otherwise be accounted for.

DR. MACGREGOR replied that there was no opening and no adhesions, but he thought it probable in a sac so large that the pelvis of the kidney really served as a substitute for the bladder. The extraordinary size of the pelvis of the kidney would account for the phosphatic deposit, because it had acquired new functions. The proper function of the kidneys, however, was but little, if at all impaired.

DR. GOULEY said that the explanation given by MacGregor was hardly necessary, since it was a fact that phosphatic deposits would take place in any part of the urinary apparatus. He had formerly been skeptical in regard to this point, but he had so often observed such deposits in the pelvis of the kidney, that he was fully convinced of their occurrence. In herbiferous animals, moreover, the kind of stone that ordinarily originated in the kidney was the phosphate-of-lime calculus. Dr. Gouley then exhibited a work of John Greenfield, published in 1710, which contained a plate of the stone found in the bladder of Sir Thomas Adams, and also some other ancient books, with plates, on the subject of stone.

DR. IRA B. READ related the history, and presented the specimen from a

CASE OF PERICARDITIS WITH COMPLICATIONS,

the most prominent feature of which was the extensive adhesions between the heart and pericardium, and pericardium and pleuræ, which rendered an exact diagnosis difficult. The patient, an adult male, in March last, had a slight attack of rheumatism, which was confined to one knee. In July, he began to suffer markedly from shortness of breath, and he then recalled that he had felt this to a slight extent at times for about a year. The dyspnœa now increased rapidly. The heart's action was tumultuous, being rapid and weak; but no friction-sound or evidence of effusion in the pericardium could at any time be detected. The temperature continued high. Prof. Edward G. Janeway was called in consultation, and the diagnosis of pericarditis was made. At the autopsy, it was found that the pericardium was closely adherent to the heart; that there had been no chance during life for any movement between the two, the absence of friction-sounds and signs of pericardial effusion being thus readily accounted for. About the 1st of August, seventy ounces of fluid were drawn off from the right pleura, an extensive effusion having occurred there, and this gave the patient much relief temporarily. Later, about one week before death, twenty-eight ounces of fluid were withdrawn from the right pleural cavity. The heart trouble still continued, however, and the patient succumbed before the 1st of September. The question arose: Did this pericarditis have its origin in the slight attack of rheumatism which occurred in March? As far as he was able to judge, it seemed to Dr. Read that it must have had an older history than that.

DR. F. GRAUER described the condition found at the autopsy of a somewhat similar case which he had made recently. Four months before death the patient had an attack of pericarditis, from which he apparently made a good recovery; but about two months later he began to suffer from dyspnœa, and this steadily increased. The autopsy showed that he died from paralysis due to over-distension of the right ventricle. There was also excessive hypertrophy of the left ventricle, due to adhesions.

Dr. Grauer then presented the specimens from a patient of Dr. Janeway's who had died from

PERFORATION OF THE CŒCUM,

following obstruction of the gut. On the afternoon of November 19th the patient complained of colicky pains, and in the evening of the same day he died of collapse. At the autopsy, the cœcum, which was per-

forated by ulceration, was found distended almost like the stomach, the cause of the obstruction being a strong fibrinous band originating from chronic adhesive peritonitis. The muscular coat of the small intestine above the seat of obstruction was very markedly thickened, and the same was also true of the colon. Dr. Grauer thought it very doubtful whether the patient could have been saved if laparotomy had been performed in this case, on account of the condition found at the autopsy.

Dr. Isaac E. Taylor related two cases of intestinal obstruction which had come under his observation.

Recent Literature.

Cyclopædia of Obstetrics and Gynæcology: the Four Volumes on Obstetrics. Being the Treatise by Dr. A. Charpentier, translated under the supervision of, and with notes and additions by Egbert H. Grandin, M.D. New York: William Wood & Co., 1887.

Charpentier's treatise, published in 1882, is too well known, by specialists at least, to require especial notice at this time. The author's aim was to write a work "which would give to the practitioner, student, and midwife a sufficient, although condensed, knowledge of modern researches" in the science and art of obstetrics. While we doubt very much whether the midwife and undergraduate student in this country, will find this work best suited to their use, physicians will value it not only as the best modern exposition of French obstetrics, but as a fair critique of German and English opinion from a French point of view.

In preparing this edition for American readers, the editor has sought by occasional corrections and additions to express the changes in opinion and practice which have occurred since the publication of the French edition; and he has also interpolated criticisms of French methods in so far as they are not in accord with the best practice in this country.

Volume I is devoted to the anatomy of the internal and external genitals, menstruation and fecundation, normal pregnancy and labor. The editor's notes in this volume are necessarily few, from the nature of the subjects treated, the most valuable and important being those on the management of the third stage of labor and on the use of the abdominal binder. While substantially agreeing with the editor in his views as to the use of ergot after the uterus is empty, we would raise the query whether the use of ergot for ten days after delivery does not sometimes markedly diminish the secretion of milk: this has seemed to us to be the result in some cases, and we believe, therefore, that when ergot is thus used, this possibility should be kept in mind.

Volume II is devoted entirely to the pathology of pregnancy. The editor's chief notes are in the chapters on miscarriage and extra-uterine pregnancy: they are in entire accord with advanced opinion in this country, and add materially to the value of the book.

Volume III treats of the pathology of labor, and there is also a chapter on the uses of ergot. It is in the subject-matter of this volume that we should expect most conflict of opinion between French and American authorities. The treatment of ineffective pains in the first stage, the question of version *versus* high-forceps in the minor degrees of pelvic contraction, the treatment of perineal lacerations, of post-partum hæmorrhage, and of placenta prævia have all received adequate attention from the editor, and the views of the best authorities in this country have been fairly stated.

Volume IV the author devotes to the obstetric operations and the pathology of the puerperium: although these subjects are very well treated, there is ample opportunity for revision, of which the editor has taken full advantage. The editorial work in connection with the subject of puerperal fever gives us great satisfaction.

In a work of such importance it is disappointing that the illustrations should be so poorly executed; they are all coarsely done and in many instances the designating letters, numbers, and leading lines are so indistinct as to make the cut practically useless. We trust this defect will be remedied in a subsequent edition.

Pathology and Treatment of Ringworm. By George Thin, M.D. London: J. & A. Churchill. 1887.

This is an excellent monograph upon the subject. The first chapter is devoted to a consideration of the structure and nature of the fungus known as trichophyton tonsurans, and to a description of the various methods of its cultivation in liquid and solid media; a branch of the subject which has received special attention from the author and upon which he is an authority. The rest of the book considers in detail the etiology, pathology, clinical aspect, and the treatment of ringworm in all its varieties. Any one who has much to do with the treatment of ringworm of the scalp gradually finds himself tending towards nihilism in therapeutics, and pessimism in prognosis with regard to it and as the author remarks "when many remedies are recommended in the treatment of a disease it is only too probable that not much confidence can be placed in any of them. Unfortunately, the latter proposition applies to the treatment of ringworm" (of the scalp). An appendix to the treatment of tinea capitis gives the views of three distinguished French dermatologists upon the subject, Vidal, Lailler and Besnier. Vidal gives the average duration of ringworm of the scalp as from ten to fifteen months. Lailler states it to be from twelve to fifteen months, and Besnier says "the duration of tinea tonsurans is always long; from two months to two years." It is well for the practitioner to bear the above statements in mind and not to be led astray by "remarkable results" in the way of treatment which he may see published in the journals, and thus be tempted to fly from one remedy to another in desperate uncertainty. As said before, the monograph is a most excellent one, and well worth the reading.

G. H. T.

— Oil of turpentine is said to be a powerful deodorizer for iodoform. A little rubbed on the hands will completely remove the smell from them. The hands should be afterwards washed in soap and water. In the same manner spoons and any utensil may be freed from the smell of iodoform.

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IS THERE A CONGENITAL SOUND-DEAFNESS?

AMONG the well-recognized varieties of aphasia due to pathological lesions in the left inferior parietal lobules, the first and second frontal convolutions and the vicinity, are the so-called word-deafness and word-blindness, the latter of which we had something to say in our last and elsewhere in our present issue. The question has been lately raised whether besides these phenomena, resulting from disease, there is a congenital sound-deafness, bearing something of the same relation to ordinary deafness that color-blindness bears to complete lack of sight. The phenomena which lead to such a supposition naturally come more under the cognizance of the teacher than of the physician, and a recent writer in the *London Journal of Education* in an article quoted at some length in *Science*, has discussed the question from the pedagogic point of view, adopting the opinion that there is such a congenital defect. This conclusion he bases upon some curious instances observed in children of the lack of power to distinguish between sounds, vocal and consonantal, of really marked difference, and upon the inability of certain children to spell even phonetically words read to them for the first time. For example, this writer found that one boy, in writing poetry which he had committed to memory, spelled "very" "voght." The boy was very slow in learning to read. Experiment showed that though he was not deaf he could distinguish no difference between the words "very," "perry," and "polly." It was, moreover, noticed that when a class of boys read aloud in concert, some of them would give, instead of a printed word, its synonym, although the latter was of totally different sound from the former. Yet, with some apparent inconsistency with his former statement, the writer says that these boys were those in whom the power of hearing was already under suspicion.

A boy of eleven, while a generally poor speller, was noticed in writing from dictation to make mistakes, especially in interchanging l and r. He wrote "sunderelents" for "sundry rents," "compreated" for "complicated," "laserlacions" for "lacerations," etc. He cannot pronounce these letters, and his teacher believes the defect to be in his ears, though he is not at all deaf.

After remarking that on the analogy of color-blindness it might be expected that vowel sounds would be more likely to be confused than consonant sounds, he continued:—

"The confusion caused by explosive consonants is, however, more remarkable than that from vowels; the inexperienced ear which is dull at catching consonants is capable of any distortion of sounds. To illustrate this, an experiment was tried with a class of eleven boys, averaging ten and a half years of age, and all able to read fluently, one or two of them being somewhat extensive readers. Some short ordinary words were selected, which nearly all got right, and then words specially to test the power of hearing, some of which, it was hoped, the subjects of the experiment had never heard before. Here are the variations of five words (the italicized vowels show inter-change in the hard-vowel scale):—

	Different	capable	ultramarine	spectroscope	Epaminondas
1	diffreant	capbul	ultrmean	spucerow	apnonas
2	different		ultramarine	specoreurscope	aparmondas
3	diferent	capeperbul	altrermerine	speckshow	aponedondas
4	diferrent	capperble	altrermerein	speckros-cop	achappynomeen
5	diferant	cameble	oltremer	spkerrope	appanandex
6	drifrent	capable	untummerrein	specteroskop	epameeondeons
7	diffrent	capabybely	ultrican	spesptrocope	eneandass
8	drifent	capebibel	ultrenn	spectuscope	epermondes
9	different	capebale	ultermeriem	specktrocope	apporymondas
10	differant	ackable	ultomarien	spreting	apanenondes
11	differint	caperble	ultrumeree	spatroscope	appongamanges

"The room was a small one, and the words slowly pronounced twice, each word being written immediately after it had been read out. The majority of these boys are unusually intelligent. The worst speller but one recited, soon after his eighth birthday, 'The Battle of the Lake Regillus.'"

"Twenty words in all were read out. Among them were 'yellow,' which all got right; 'instance,' five right, one of the best readers giving 'insentsess;' 'aniline,' of which there appeared these variations, 'haniyne,' 'anileling,' 'anelile,' 'animiene,' 'aleline,' the rest being at any rate phonetically correct."

Such failures as these to catch the sound of new words, or at least to depict that sound orthographically, are interesting, but several causes of error are to be allowed for before setting down the result of such tests as evidence of a true sound-deafness. The first of these is lack of attention of the pupils to just what was said. Leaving out of account actual stupidity, which must be very common among the class of children observed, lack of close, sharp attention to just what is said is an almost universal failure of children, even among such as might be classed, like these eleven boys, as "bright." An unexpected question asked quickly of a child, even if couched in perfectly simple language, usually requires to be repeated before it is grasped, unless the child has a power of attention greater than current educational methods seem to secure.

Again, the fact noted of the substitution, in reading

in concert, of a synonym for the printed word, does not of itself carry any suspicion of sound-blindness. Many persons, perhaps even those most accustomed to the use of letters, do the same thing. An intelligent reader's mind involuntarily keeps ahead of his eyes. He jumps at the meaning of his author, and is able to finish out many sentences irrespective of the author's own words. What, then, more natural than that, having framed a word expressive of the author's meaning, and finding its substantial correctness confirmed by the slightly tardier evidence of his eyes, he lets his synonym go without correction? We probably all notice this in reading aloud, when we turn a page, and occupying that trifling delay by supplying the first word of the following page.

Finally, we cannot help thinking that much of the poor spelling and of the discomfiture of children in the presence of combinations of letters which are novel to them, is to be ascribed to the fallaceous modern "method" of teaching children to read. Our author says of these supposed victims of sound-blindness: "I inferred that they associated the printed letters not with their sound, but with the concrete thing which they represented, much as if they had been a picture." Now, just this is what is aimed at by the present popular mode of teaching. A child is taught to recognize groups of letters, that is words, as a whole, without reference to their individual constituents. "He reads before he knows his letters," is the boast of the teacher. The spelling-book no longer occupies its once dignified station in the school-room. This meets with the approbation of the scholars, and perhaps it may be defended on the ground that other studies are really of more intrinsic importance. But when, as a natural result, the scholar falters before some new word, with the sound and meaning of which he is perhaps already familiar, but with which he has no means of associating the characters before him, it is not fair to set his failure all down to the credit of sound-blindness.

Other observations, eliminating some of the errors noted above, will be welcomed as casting light upon the question whether there is a congenital sound-deafness. Meantime, we are more inclined to look for the acoustic analogies of color-blindness in the not rare lack of tone-sense, or, as it is popularly called, the "ear for music."

WORD-DEAFNESS.

Word-deafness is the inability to comprehend the signification of spoken language; or, in other words, it may be defined as the amnesia of audible signs.

First accurately described by Wernicke,[1] in 1874, and named by Kussmaul *Word-deafness*, this form of sensorial aphasia was distinguished from mental alienation, on the one hand, and from ordinary deafness on the other, by Baillarger, as appears from the following citation from his academical discourse,[2] delivered in 1865:

"There is at this moment in my service a woman who cannot give the names of any of the more common objects around her; she cannot even tell you her own name. When any object is presented to her she makes a sign that she recognizes it, and endeavors to recall its name, but is unable. She is conscious of her condition, and is greatly distressed thereby.

"At the same time, this woman utters hosts of incoherent words, accompanying them by various expressive gestures, which prove that behind this incoherence there are definite ideas which she would fain express. The perversion of language was at one time so great in this patient that we believed her to be deaf and insane. The question of deafness was easily decided, but not so with the question of mental alienation. The lunatic, as has been said, is an unfortunate being who is unconscious of his own state; now this essential characteristic is wanting in our patient, who seems, in fact, well to appreciate her condition, and is, moreover, entirely devoid of all irrational acts."

The symptoms of word-deafness are well depicted in the report of a typical case by M. Girandeau, in the *Revue de Médicine* for 1882.[3] The patient, B. M., was a female, aged forty-six years; entered St. Antoine Hospital in the service of Hayem. Etiological antecedents, very obscure; no specific affection. For three months patient had suffered continuous headache, the pain being located in both sides of the head. For a month prior to admission, and subsequently, was suffering from the aphasic affection in question. When asked a question, as "What is your name?" her invariable reply was: "I do not understand." Occasionally, however, on several repetitions of the question, the idea seemed to be awakened in her, and she replied correctly. The organ of hearing was found to be intact; the ticking of a watch and other low sounds could be distinctly heard. This patient could read written or printed language readily, and could answer written questions with facility, replying either by word or by writing. The special senses all seemed to be intact and motility was good on both sides. This case proved fatal, and the autopsy disclosed a sarcoma occupying the posterior portion of the two first tempero-sphenoidal convolutions on the left side.

The subject of word-deafness is, to use the expression of Kussmaul, like a person in the midst of a people speaking a foreign language. A patient of Seguin's having this affection used to say: "If I go to a lecture or hear a sermon, I hear the speaker, but what he says is all Greek to me." This patient could, however, go to a concert and understand musical notes.[4] Persons afflicted with this form of aphasia, when a question is addressed to them, manifest an air of surprise, or seem more or less stupid, and their

[1] Wernicke. Die Aphasische Symptomen Complex, Breslau, 1874.

[2] Baillarger. Bull. Acad. Imp. de Medicine, 1865, T. xxx, p. 828. (Cited by Bernard in his treatise on "Aphasia," Paris, 1885.)

[3] Cited by Bernard in "Aphasies et ses diverses formes," Paris, 1885.

[4] Pepper's Syst. Am. Med., Vol. v. p. 31.

answers have no relation to the question asked. The vocabulary of some of these patients is limited to a very few words, as in a remarkable case reported by Rosenthal.[5]

With regard to the usual course of this affection, verbal-deafness, according to Wernicke, is of all forms of aphasia that which is the most likely to be recovered from. His first case is an instance of the kind, so also are those of Schmidt and Bernhardt. L. J., Charcot's patient, whose history is given in Bernard's work, was for two years able to utter only the words *yes* and *no*, and all comprehension of spoken language was lost; this patient had right hemiplegia with contracture; the recovery of speech was eventually quite complete.

With regard to the cortical lesion with which this form of sensorial aphasia is in constant dependence, the present state of our knowledge is well summed up by Keraval, in a note to Nothnagel's *Topische Diagnostik*, which he has translated: "This affection is clearly in relation with one of the left temporal gyri. It is certain that in typical cases accompanied by an autopsy there has always been noted, alone, or accompanied by other lesions, softening or other alteration of the two first tempero-sphenoidal convolutions on the left side, or of the upper-half of the first tempero-sphenoidal in its posterior part. In eliminating all cases where word-blindness is a complication, and the lesions which pertain to the latter, and in taking account only of the lesions met with in word-deafness *pure*, we are impelled to the conclusion that some morbid alteration of the *left temporal lobe*, and in particular, of its *supero-posterior extremity*, is a constant correlative of the form of aphasia in question."

The above view is, in words, almost identical with that advocated by Nothnagel. The cases on which it is founded are some twenty in number, and no facts have as yet been brought to light which seriously invalidate the conclusion.

THE CANCER BACILLUS.

WE have been expecting, these many years, the announcement of the discovery of the cancer bacillus. That the causal agent of this dire disease has not hitherto been found, is not owing to any lack of research and investigation. What ambitious bacteriologist, but has hoped at some time to startle the world with the discovery? By some deft process of staining, this (microscopic) monster of pathological depravity, which hitherto, like a true imp of darkness, has concealed itself from human vision, was to be branded and exposed to the scientific gaze. By suitable devices it was to be fished out of its haunts, and made to demonstrate *in vitro* its secret methods of morbigenous proliferation. The fiftieth generation of its descendants, well nourished in gelatinous media, was to be made, by suitable inoculation procedures, to unfold all the phenomena of carcinomatous genesis. All this, the ardent microbiologist has hoped would sometime be his fortunate experience, and how he has toiled at the microscope till his vision was dimmed! But sections of morbid growths, and glass slides daubed with cancer juice, however stained, have hitherto revealed no bacteria that were distinctively new, or *sui generis*, and the diligent worker has eventually given up in despair the hunt for the hypothetical microbe.

But M. Scheurlen, of Berlin, claims to have been more successful, and the last number of the *Semaine Médicale* contains a brief communication in which he claims to have actually found the bacillus of cancer, a claim previously set forth in the telegraphic columns of the *New York Herald*, and referred to in our last issue. In brief, he takes from the interior of a mammary carcinoma that has been antiseptically treated, a drop of cancer juice. This, under the microscope, gives masses of amorphous spores. Inoculated in the sterilized liquid of a pleuritic effusion, which after being heated to 80° or 90° C., is allowed to coagulate, it gives rise, after three days, to a colorless pellicle, which soon becomes corrugated, and turns yellowish-brown.

On examining this pellicle under the microscope with a No. 2 eye piece and a one-twelfth Seibert immersion lens, Scheurlen finds abundant peculiar bacilli and oval spores, glittering, greenish, with motions (active or molecular) of rotation. The method of staining is almost identical with that by which Koch's tubercle bacilli are demonstrated.

Scheurlen has now, since the first of October, been experimenting with the results of his cultures. With the product of the culture of cancer juice on agar-agar, he inoculated six dogs, choosing for this purpose bitches, and injecting the culture liquid into the mammary gland. Four of these animals are still living, two have been slaughtered, the one on the thirty-fifth, the other on the twenty-eighth day after the injection. In the tissue of each mammary gland was found a hard tumor, the size of a filbert. The microscopic examination of this tumor disclosed large granular cells, some of which were certainly epithelial. By the side of these, there were cells undergoing fatty degeneration. Scheurlen does not doubt that this was a case of chronic inflammation with cancerous degeneration. The presence of the cancer bacillus in these tumors was demonstrated by the microscope, and by cultures which were made.

The four living dogs are shortly to be killed and the microscopic and other results reported.

The above account is of interest as indicating the possibilities of experimental investigation in this most obscure department of pathology. Whether or not M. Scheurlen has really discovered anything, or whether he has been pursuing a scientific will-o'-the-wisp, future researches must determine.

FAITH-HEALING EXTRAORDINARY.

A MEETING of Faith-healers was held last week in Chicago, at which, according to the Press reports, an audience of two thousand person were treated to his-

[5] Centralblatt für Nervenheilkunde, 1884, No. 1.

tories more wonderful than those usually narrated on such occasions. The peculiarity of these testimonies was their reference to phenomena, usually supposed to be limited to crustaceans and other lower orders of life, such as the reproduction of lost members. For instance, a Swede declared that having lost his sight by an accident, not only had a diseased eye, through faith, become sound, but that in less than a week a new eye grew in the place of the one that had been removed. A clergyman stated that he had been born with hip disease, and that one foot (*sic*) being three inches longer than the other, he was cured in a moment, and suddenly found his old, short member as long as the other. Beside such statements as these, the usual class of reports, relating to the domain of internal medicine are likely to lose their interest for the brethren and sisters. The latter can probably be depended upon, however, in future meetings not to be left behind in the marvellousness of their experiences.

MEDICAL NOTES.

—A correspondent writes to the *Atlanta Medical and Surgical Journal* of an unusual case, that of a primipara aged twenty-one years. Nothing unusual occurred until the head was pressed against the coccyx, which did not yield. He applied the forceps and delivered her without any trouble and without any laceration of perineum. Immediately after delivery she suffered intense pain in the region of the coccyx, for which she was given an opiate and the bone examined. Some displacement was found, which he corrected, supposing it to be fractured. The opiate soon relieved the pain; she did not suffer any more until the ninth day, except some tenderness in the region. She had some slight pain on that day. On the tenth she passed a bone per anum, stating that she thought she had passed a joint of her backbone. Upon examination the doctor found it to be the lower segment of the coccyx. She has had no trouble since.

— The *London News* published the other day an interesting list of noted men now living, and what is more, now working at an advanced age. The paragraph was suggested by the occurrence of M. de Lesseps' eighty-second birthday. He can look around him and see but very few men of anything like equal eminence who are as old as he, says the *News*, referring to the event. The German Emperor is 90; Dr. Dollinger is 88; Moltke and Bancroft, the historians, are each 87; Kossuth is 85, and Prof. Owens is 83; but it is not easy to extend the list. Yet it is astonishing to note the large number of living great men, who have passed the ordinary limit of human life. Of sovereigns, the Pope is 77, and King William of the Netherlands is well on his 71st year. Of statesmen, Mr. Gladstone will be 79 next month, Mr. Bright is 76, Prince Bismarck is 72, M. Jules Grévy is 74, M. Leon Say and M. Leroyer are each 71; Lord Selborne is 75, Sir Rutherford Alcock is 78, Lord Sherbrooke is 76, and Lord Granville is 72. Of generals, MacMahon is 79, Lebœuf is 78, and Bazaine and Cialdini are each 76. Of poets, Lord Tennyson is 78, Mr. Browning is 75, and Dr. Oliver Wendell Holmes is 78. Of musicians, M. Verdi is 73. Of engineers, Lord Armstrong is 77 and Sir John Hawkshaw is 76. Of painters, Meissonier is 72, and finally, of showmen, Barnum is 77. Perhaps, however, M. Chevreul, who is fairly started upon his 102d year, ought not to be omitted. In any case the catalogue is far from being a complete one. As it stands, it is sufficiently remarkable. We have mentioned the names of thirty-three persons, the average age of each being over 78. It may be doubted whether in the history of the world thirty-two men of as considerable celebrity and of as great average length of life have ever before been alive at one time."

—A bill has been drafted by a committee of English architects and civil engineers, for the State registration and control of these professions, which at present are open, as is medicine in Massachusetts, to any one who choses to invest in a sign and expose it before the public. That great harm is done by incompetent architects through plumbing, unscientific in design and slightly supervised in construction, is evident. But a correspondent of the *Philadelphia Medical Times* cites a case where similar blundering was committed by a man who stood high as an architect in London. A small country house was built from the designs and under the superintendence of one of the leading architects in London. It was most conveniently planned, soundly built, and the elevation is very picturesque. The drains, however, were very badly arranged, and when examined recently were found to have been so carelessly finished that not one was in proper working order. Evidently an ignorant or dishonest builder had been allowed to make the connections between the house-pipes and the drains in any way that pleased his conscienceless soul, the architect not caring to take the trouble to ascertain whether the beautiful house he had built would not be rendered almost uninhabitable by imperfect drainage. Yet this very gentleman, were such a council to be established as is proposed, for controlling the practice of that profession, would very probably be one of the first persons nominated or elected to it. *Quis custodiet custodes?* There is reason to believe that American architects are sometimes open to similar criticism, at least, in their supervision of work, which they may have planned correctly but in which tricky builders contrive to blind their eyes.

BOSTON.

— An important case under the law regulating the sale of poisons was heard before Judge Forsaith at the municipal criminal court, last week. A druggist's clerk was charged with selling poison contrary to the provisions of Chapter 38 of the laws of 1887. It was the first case under the new statute that has come into court. The facts were these:

J. A. Nicholson committed suicide in Boston on

November 19th. He had made one attempt previously. On the nineteenth he bought at Cole's drug-store on Tremont street, three grains of strychnine which he took on his return home. He died a few hours later. Before he died he told his mother where he got the poison. The label did not show this. Medical-Examiner F. W. Draper, with an officer, visited Cole's drug-store. The defendant clerk admitted the sale of poison, of which he made no record. He said he thought it was to kill a sick dog. In court he admitted the sale of the poison. It was urged in his behalf that he was a foreigner, ignorant of the laws of the State, and that his employer had said that there was no need of making a record of sales. It was shown that the defendant had previously sold some poison to kill a sick dog, as he alleged, but the first record of the sale of poison was three days later than the 19th.

Judge Forsaith held that the case rested on the admission of the young man that he had sold poison without making a record. He was fined $30 without costs, and an appeal was taken by his counsel, to the superior court but subsequently the fine was paid and the appeal withdrawn.

NEW YORK.

— The annual meeting of the supervisors of the New York Orthopædic Dispensary and Hospital was held December 8th, and the annual report showed that in the last ten years the institution had made all its beds free. There are now twenty-five beds instead of fifteen (only two of which were free), as formerly. The report of Dr. Newton M. Shaffer, surgeon-in-chief, showed that during the past year the number of new patients was 731, and of continued patients, 986. The cases of diseases included 349 of Pott's disease, 104 of lateral curvature of the spine, 127 of club-foot, 79 of knock-knee, 118 of bow-leg, and 98 of infantile paralysis. The deaths were twenty-four in number, and 413 patients were discharged permanently benefited. 10,079 visits were made at the dispensary; 970 at residences. At the meeting, addresses were also made by Bishop Henry C. Potter and Dr. F. LeRoy Satterlee.

— The Methodist Episcopal Hospital on Seventh Avenue, Brooklyn, the funds for which have been mainly provided by Mr. George I. Seney, has been partially completed and was formally dedicated on the 13th of December.

Miscellany.

CASES OF POISONING FROM TYROTOXICON.

DR. VICTOR C. VAUGHAN, director of the hygienic laboratory in the University of Michigan reports in the *Medical News*, December 3d, four cases of poisoning from this agent, with three fatal results. The cases occurred in a family of four, of whom the mother, son (aged eighteen), and daughter (aged sixteen), died; the father alone recovering. The symptoms were those of irritant poisoning. The deaths occurred from the fourth to the sixth day of illness. The temperatures were subnormal, in some cases as low as 94. All complained of a burning constriction in the throat, and difficulty in swallowing, and all, as long as they were conscious, frequently called for ice. In all the pulse was rapid and feeble, and death seemed to result from failure of the heart. Those who died voided urine involuntarily. There was a coarse rash resembling scarlatina. The pupils were dilated.

Dr. Vaughan tested the vomitus for mineral poisons negatively. The symptoms did not point to any vegetable drug, unless possibly belladonna; but this was excluded by further investigation.

A post-mortem examination was made in the case of the daughter with negative results pathologically. The contents of the stomach and the liver were analyzed by an expert for mineral and vegetable poisons, without finding any. A cold-water extract of the stomach gave after suitable treatment, the tests for tyrotoxicon, and a portion of it was administered to a kitten about two months old. Within half-an-hour after the administration the kitten began to retch, and soon it vomited. Within the next three hours it was noticed to vomit as many as five times. The breathing became rapid and labored. The animal sat with his head down, and seemed greatly prostrated. The pupils were examined, but could not be said to be dilated. There was no purging. The retching and heavy breathing, with evidences of prostration, continued more or less marked for two days, after which the animal slowly improved.

The source of the poisoning was found after negative examinations of the drinking water and other presumptive ingesta, to have been the milk used, which was kept in a buttery. The house, while kept very tidy so far as washing of floors, etc., was concerned, was very old, and had had a reputation of being unhealthy, there having been much sickness and several deaths among previous occupants. It had no cellar under any part. From the front, at least, the surface sloped toward the house, and the rain-water ran under it. In the floor of one room a trap-door had been placed, and directly under this a small excavation had been made for the purpose of collecting the rain-water when it accumulated under the house. Although this pit was dry at the time of the examination, its sides and bottom were marked with cray-fish holes, showing that water had stood in it. The floor was laid of unjointed boards, and every time it was swept much of the filth fell through the cracks, and every time that the tidy housewife scoured and mopped the floor, the water, carrying with it the filth, ran through the crevices, and thus the conditions most favorable for putrefactive changes were brought into existence, and maintained.

One corner of one of the rooms had been transformed into a small room, or buttery, as it was called, and in this, on shelves, the food was kept. On account of the more frequent scouring demanded by that part of the floor enclosed in this buttery, the boards had rotted away, and a second layer of boards had been placed over the original floor. Between these two floors was found a great mass of moist, decomposing matter, the accumulations of years, which the broom could not reach. When this floor was taken up a peculiar, nauseating odor was observable, and was sufficient to produce nausea and vomiting in one of the persons engaged in the examination. The milk

used was kept in this buttery and the farmer had noticed it often had an unpleasant taste. It was found to contain tyrotoxicon and a kitten was poisoned by drinking it.

Correspondence.

"THE DOCTOR'S WIFE."

CRANBERRY MEADOWS, December 14, 1887.

MR. EDITOR,— My neighbor Cœlebs (*Medical and Surgical Journal*, Dec. 8th), evidently thinks my success entirely due to the fact that I have married. Now, without for a moment wishing to detract from the credit due my wife, I would like to call your attention to a point which he might easily have scored if he had chosen to exert himself a little: *He has never called on the widow of the late lamented Gamboge.*

When I settled here in Cranberry Meadows my first step was taken in the direction of the old lady's front steps. When we met, I expressed my deep sympathy for her in her bereavement — such a thoroughly estimable man (I had never heard his name mentioned until the previous week, when I chanced to learn of the opening) — such a shining light lost to the profession (here I referred tenderly to the only thing old Gamboge ever published, which I had read up in the *Boston M. and S.* the day I took the train to come here, entitled "A Severe Case of Bleeding Piles in a Youth of Sixteen successfully treated with a Decoction of Hemlock Bark," and dated low down in the forties); such a loss to the settlement (where they tell fearful stories of the doses he used to give). In short, I did the proper and becoming thing *under the circumstances*, — asked her for her advice regarding the size and lettering of my to-be shingle, and wound up by showing a degree of youthful diffidence and confusion at the idea of having dared to aspire to fill old G.'s professional Oxford ties, which quite fetched her. From that day she has been my firm friend. It was she who made up the match between Mrs. B. and myself; and the result shows that a doctor's widow (if past fifty) is a good judge of what a young M.D.'s wife should be. She has presented me with her late husband's medical library, which includes some really valuable notes from Nathan Smith's lectures on "Theory and Practice of Physic," taken at Bowdoin in 1827. I have also been made the recipient of his surgical instruments, which include the first and only speculum ever seen in these parts before Cœlebs and I arrived — a formidable-looking weapon of great size and weight, which old Gamboge used to pass through a hole cut in a sheet, with which the victim was completely covered, in the presence of such of the older lady residents of the Meadows as were renowned for their keen sense of propriety.

Just one word more. Cœlebs smokes, and, I am told, occasionally "takes something" in his office; whereas I never touch a weed, unless I chance to get a whiff or two behind the barn (tobacco is very unpleasant to Mrs. B.); and as for stimulants, I haven't tasted a cocktail since I slipped into the Brunswick during the last session of the annual meeting of the M. M. S.

To be respected one must respect himself.

Yours truly,

BENEDICK, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 3, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	658	229	23.90	19.95	.30	10.95	2.55
Philadelphia	993,801	357	84	11.76	8.96	3.92	5.88	.28
Brooklyn	745,108	334	104	18.85	17.11	1.16	12.18	2.32
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	152	57	15.18	7.26	2.64	3.30	—
Boston	400,000	197	51	16.32	17.34	.68	5.08	7.65
New Orleans	242,750	126	32	21.33	9.48	—	7.11	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	69	19	11.60	17.40	5.80	4.35	—
Pittsburgh	210,000	84	26	27.56	13.09	11.91	13.09	—
Montreal	186,257	34	20	11.76	8.82	—	4.41	—
Milwaukee	170,000	—	—	—	—	—	—	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	11	0	—	27.27	—	—	—
Charleston	60,145	37	13	8.10	2.70	—	2.70	—
Portland	40,000	9	4	44.44	—	—	11.11	—
Worcester	68,383	27	5	11.11	11.11	—	11.11	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	26	7	15.40	11.55	—	11.55	3.85
Fall River	56,863	24	13	50.00	8.32	8.32	8.32	4.16
Lynn	45,861	11	3	27.27	9.09	—	18.18	9.09
Lawrence	38,825	16	6	12.50	6.25	12.50	—	—
Springfield	37,577	15	3	26.66	—	6.66	20.00	—
New Bedford	33,393	14	6	42.84	7.14	7.14	35.70	—
Somerville	29,992	10	4	—	50.00	—	—	—
Salem	28,084	15	3	—	26.66	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	9	3	—	33.33	—	—	—
Taunton	23,674	11	3	27.27	27.27	18.18	—	—
Haverhill	21,795	7	4	71.40	—	—	71.40	—
Gloucester	21,713	6	1	—	16.66	—	—	—
Brockton	20,783	5	0	—	—	—	—	—
Newton	19,759	7	4	—	—	—	—	—
Malden	16,407	9	1	22.22	22.22	11.11	—	—
Fitchburg	15,375	4	2	25.00	25.00	—	25.00	—
Waltham	14,609	6	0	—	—	—	—	—
Newburyport	13,716	4	0	—	—	—	—	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 2,294: under five years of age 706; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 403, acute lung diseases 340, consumption 315, diphtheria and croup, 202, scarlet fever 45, typhoid fever 49, diarrhœal diseases 42, malarial fever 25, measles 12, whooping-cough 12, erysipelas eight, puerperal fever four, cerebro-spinal meningitis three. From diarrhœal diseases, New York 13, New Orleans 11, Philadelphia, Portland and Fall River three each, Brooklyn, Boston and Charleston two each, District of Columbia, Pittsburg and Taunton one each. From malarial fever, New York nine, Brooklyn seven, New Orleans five, Baltimore three, Philadelphia one. From measles, Baltimore six, New York five, Pittsburgh one. From whooping-cough, New York and Baltimore three each, Philadelphia and Boston two each, Brooklyn and Milwaukee one each. From erysipelas, New York, Baltimore and Fall River two each, Brooklyn and Milwaukee one each. From puerperal fever, New Orleans two, New York and Boston one each. From cerebro-spinal meningitis, Fall River two, Milwaukee one. From small-pox, New York one.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending November 19th, the death-rate was 21.1. Deaths reported 3,747: infants under one year of age 883; acute diseases of the respiratory organs (London) 461, scarlet fever 85, measles 84, whooping-cough 80, fever 61, diphtheria 38, diarrhœa 31, small-pox (Sheffield 25.

The death-rates ranged from 13.5 in Hull to 30.4. Birmingham 18.7; Bradford 20.9; Huddersfield 24.9; Leeds 26.9; Leicester 15.3; Liverpool 22.8; London 20.3; Manchester 28.1; Nottingham 21.6; Sheffield 22.6.

In Edinburgh 20.6; Glasgow 24.0; Dublin 34.6.

The meteorological record for the week ending December 3, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Dec. 3, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday, ..27	30.28	55.3	67.3	40.3	100.0	76.0	94.0	90.0	S.W.	S.W.	S.	1	12	6	G.	C.	C.		
Monday, ..28	30.21	49.7	68.0	38.8	94.0	100.0	88.0	94.0	S.	N.W.	N.W.	16	18	12	O.	R.	O.		
Tuesday,..29	30.57	29.0	40.0	24.9	73.0	76.0	82.0	75.0	N.	N.W.	N.	16	11	14	C.	C.	C.		
Wednes,..30	30.72	29.0	29.0	12.0	80.0	76.0	74.0	76.7	N.	N.	N.	8	24	12	C.	C.	C.		
Thursday, 1	30.93	15.7	20.0	6.7	79.0	71.0	86.0	78.7	N.	N.E.	N.	12	11	10	F.	C.	F.		13
Friday, ... 2	30.70	25.7	33.8	13.5	83.0	89.0	90.0	87.3	N.W.	N.W.	S.E.	8	6	12	O.	O.	O.		ho'rs
Saturday,. 3	30.44	40.7	47.0	33.3	92.0	85.0	96.0	91.0	S.	N.	N.	6	6	8	R.	O.	C.		.02
Mean, the Week.			43.6	32.8															

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 3, 1887, TO DECEMBER 9, 1887.

HOFF, JNO. VAN R., captain and assistant surgeon. Granted leave of absence for one month, to take effect on or about the 12th proximo. S. O. 128, Department of the Missouri, November 30, 1887.

MUNDAY, BENJAMIN, captain and assistant surgeon. Granted leave of absence for one month, to take effect about December 15, 1887. S. O. 280, A. G. O., December 2, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE FOUR WEEKS ENDING DECEMBER 12, 1887.

WYMAN, WALTER, surgeon. Granted leave of absence for thirty days, November 29, 1887.

WILLIAMS, L. L., assistant surgeon. Granted leave of absence for twenty-one days, November 18, 1887.

KINYOUN, J. J., assistant surgeon. Leave of absence extended seven days, November 29, 1887.

WOODWARD, R. M., assistant surgeon. Granted leave of absence for seventeen days, December 5, 1887.

GASSAWAY, J. M., surgeon. When relieved to proceed to Cairo, Illinois, and assume charge of the service, December 9, 1887.

IRWIN, FAIRFAX, surgeon. Promoted and appointed surgeon from date of oath, December 10, 1887. December 8, 1887. To proceed to Pittsburgh, Pa., Wheeling, W. Va., Gallipolis, Ohio, Evansville, Ind., Cairo, Ill., Little Rock, Ark., Shreveport, La., New Orleans, La., Rome, Ga., Chattanooga and Nashville, Tenn., as inspector, November 12, 1887.

GUITERAS, JOHN, passed assistant surgeon. When relieved, to proceed to Charleston, S. C., and assume charge of the service, December 12, 1887.

BANKS, C. E., passed assistant surgeon. To proceed to Portland, Maine, and assume charge of the service, December 9, 1887.

CARMICHAEL, D. A., passed assistant surgeon. When relieved, to proceed to Washington, D. C., for temporary duty in the office of the Supervising Surgeon General, December 9, 1887.

BEVAN, A. D., passed assistant surgeon. Granted leave of absence for twenty days, December 7, 1887.

GLENNAN, A. H., passed assistant surgeon. To proceed to Key West, Fla., and assume charge of the service, December 12, 1887.

DEATHS.

Died in Lawrence, Mass., December 10, 1887, David Dana, M.D., M.M.S.S., aged sixty-four years.

Died in Boston, December 9, 1887, Charles Harrison Spring, M.D., M.M.S.S., aged fifty-five years.

OBITUARY. DAVID DANA, M.D.

Dr. David Dana, whose death occurred suddenly on December 10th, graduated from the Harvard Medical School in 1847, went to Lawrence, Mass., in 1848, and had successfully practised his profession there ever since, with the exception of the time when he was serving as Surgeon in the First Massachusetts Heavy Artillery, during the War of the Rebellion. Dr. Dana leaves a widow and two daughters.

ON SO-CALLED SURGICAL SCARLET FEVER.

This is the name given by many to any eruption resembling scarlet fever which comes on after a wound or operation, whether it begins at the injured spot or at a distance. Hoffa has analyzed a number of such cases to be found in various publications, and reduces them to four categories. The first three are not true scarlatina, but (1), a simple congestive vasomotor erythema, depending on a vasomotor reflex; (2), toxic erythema, caused by the absorption of secretion from wounds or other fibrinous ferments, or it may be brought on by the use of chloroform, carbolic acid or corrosive sublimate; (3), septic erythema, sometimes very hard to diagnose from true scarlatina — after the rash fades there is occasionally desquamation; (4), a real scarlatina, arising in the usual way from infection. To deserve the name of surgical scarlatina, such cases must have become infected after the infliction of the wound or operation, and the exanthem must have commenced at the wound. Nine cases are selected from the literature of the subject. Hoffa is of opinion that a wound predisposes to scarlatina, as it presents a larger surface for the micro-organisms of scarlatina to attach themselves to, and in this way he explains the shortness of the period of incubation which has often been noticed. Volkmann's *Sammlung*, No. 292, *Edinburgh Medical Journal*, December, 1887.

BOOKS AND PAMPHLETS RECEIVED.

The Confidence of the Public in Non-Professional Prescriptions. By W. S. Leonard, M.D., of Hinsdale. 1887.

The Physician's Visiting List for 1888. Thirty-seventh year of Publication. Philadelphia: P. Blakiston, Son & Co.

Lecture.

THE BONES OF THE LEG CONSIDERED AS ONE APPARATUS.[1]

BY THOMAS DWIGHT, M.D.
Parkman Professor of Anatomy at Harvard University.

Now that we have studied the tibia and fibula in the usual way you are no doubt prepared to admit that the fibula is a most difficult and confusing bone. Indeed, I consider it the hardest in the body, but I wish to show you that the trouble comes from studying it alone instead of in its natural connections. In works on anatomy you find after the description of the bones of the spine, the skull, the thorax and the pelvis respectively, chapters on the spine, the skull etc., as a whole, but this view of the tibia and fibula is not given. I invite your attention, therefore, to a chapter which anatomists have apparently forgotten to write. You will find, I hope, that your ideas of the bones of the leg will be simplified, and that the fibula in particular will have lost half its terrors. Unlike the radius and the ulna, the bones of the leg are always in very nearly the same relative position. They are parts of one apparatus for supporting the weight of the body, forming the socket of the ankle-joint and giving attachment to muscles. The weight-bearing is done almost wholly by the tibia. Both bones have a share in forming the ankle-joint and in certain changes of position of the foot there is some slight motion between them. When the foot is extended,[2] that is, bent upwards towards the shin, the broadest part of the articular surface of the astragalus is brought between the malleoli, and the fibula gives a little. If the socket were wide enough to admit the broadest part of the astragalus without this giving, the latter bone would in most positions be without adequate lateral support. Still the amount of motion is very slight indeed. Very powerful muscles arise from the bones of the leg and the apparatus is broadened at the upper part to give them more room in a way consistent with the least possible increase of weight and the greatest elasticity. If this expansion were of bone there would be a very unnecessary increase of weight, as all that is needed besides the tibia, which is in the line of pressure, is a smaller bar at some distance from it and a membrane between them from which muscle can arise as well as from bone. The fibula is very elastic, and is undoubtedly subjected to much strain from muscular action, especially in sudden efforts, and it is of great advantage that it should be attached to the tibia by a joint to break the shock rather than be of the same piece. If it were not so arranged, fractures of the fibula alone would be much more frequent than they are. Moreover, it is possible to conceive that if the bones were continuous at their ends, the place of the membrane might have been taken by bone so thin as to add very little to the weight, but it is clear that the elasticity of the structure would have been lost or at least much lessened.

When the bones are together the breadth of the upper half of the structure, its narrowing to about the junction of the lower and middle thirds, and the subsequent moderate expansion for the ankle are all very evident. Professor Humphry has pointed out the advantage of the narrowing to reduce the weight near the end of the limb that it may be swung the more easily, and also the need of a certain enlargement of the bones lower down to form the socket for the ankle. The amount of the narrowing varies considerably. It is very much less than usual in the bones from which Figures 4, 5 and 6 are taken. The junction of the middle and lower thirds is well known to be a weak point in the leg and various explanations of the fact have been given. It seems sufficient to say that at this point not only the circumference of the chief bone is at its smallest, but that the girth of the whole bony framework of the leg is smallest too. It is, moreover, as has been pointed out, the place at which the upper prismatic part of the tibia joins the lower cylindrical one.

By the study of these bones on a ligamentous preparation, we get at once a correct idea of another very important feature, namely, the want of parallelism between the transverse axes of the knee and ankle, or in other words the twisting of the bones of the leg by which the foot is turned outwards. If the bones lie on a table, the upper end rests on the internal tuberosity of the tibia and on the head of the fibula, except in some cases, when the latter bone bends so much backwards that a part of the shaft instead of the head is the point of support. In either case the anterior border of the top of the tibia is very nearly horizontal, the shortness of the outer tuberosity being made up for by the backward projection of the fibula. Turning to the lower end we see that it rests either on the outer malleolus or on the outer border of the tibia and that the inner malleolus is in the air. The transverse axis of the joint runs outward and downward. The variation of the degree of torsion is considerable. Mikulicz measured it on one hundred and twenty tibiæ and found that the angle formed by the axis of the knee with that of the ankle ranged from 0° to 48°. The latter was, however, a very extreme case, and but very few approached it. In about two-thirds of the cases it ranged from 5° to 20°. This, to be sure, is easily seen on the tibia alone, but it is much more striking when the bones are united. Another idea which we gain from studying the bones lying on the table in this position, is that the general course of the fibula is not far from a straight one, while the inner posterior border of the tibia describes a great curve from the table. I shall return to this point when we come to the tibia in the living.

Let us now begin the description of the two bones as one piece. You will understand that it is not my intention to repeat the description of points that have been sufficiently dwelt on in the usual account of the bones, but to give you the outlines of the composite framework. I therefore say nothing of the internal structure of the bones and make no effort to give a complete list of the muscular attachments.

We find an upper and a lower end bounding the middle portion. The upper end is the same as that of the tibia plus the head of the fibula, which is situated far back on the outer aspect, and which is below the knee-joint. I have no occasion, therefore, to repeat the description of the upper end of the specimen. The lower end forms the socket for the ankle. The roof of the socket is broader in front than behind, and slightly concave from before backwards. There is a slight antero-posterior elevation in this surface which

[1] A lecture delivered at the Harvard Medical School, November 14, 1887, rewritten and added to.

[2] There is much confusion in the use of the terms flexion and extension as applied to the foot. It seems to me simplest to consider flexion the result of the action of the flexors and extension that of the extensors.

is more easily recognized by the touch than by sight. I would call your attention to the fact that slight changes in the surface of bones are best studied by the finger. Notice that the inner surfaces of the malleoli incline away from one another as they descend. This slant is greater in the short inner malleolus than in the longer outer one which sometimes forms but little more than a right angle with the lower articular end of the tibia.

When we look at the bones lying on the table it is easy to see that the inner malleolus is anterior to the outer. This is due to the twisting of the bones already referred to, for if we grasp the bones by the middle and consider only their lower ends, this does not appear. The outer malleolus is also decidedly longer than the inner. There is a little fold of synovial membrane which continues the ankle-joint a short distance between the bones above the socket. Just above this they are firmly bound together by the interosseous ligament.

We now come to what we may call the shaft of the structure, which consists of the shafts of the two bones and the interosseous membrane. We recognize three borders and three surfaces.[2]

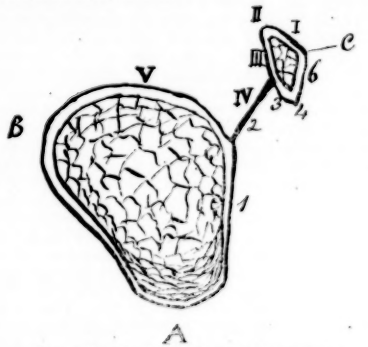


FIG. 1. About two inches below the upper surface.

The *anterior border* A is the crest of the tibia which, beginning at the tubercle, ends at the front of the inner malleolus. Its course is sinuous, the upper part having a slight convexity inwards, the lower, a stronger convexity outwards. In Figure 1, a little below the tubercle, this border is still very thick; at the middle of the leg, it is sharp; and near the ankle, it is not always to be recognized in a cross-section.

The *internal border* B is that of the tibia which begins at the inner tuberosity and ends at the back of the inner malleolus. Of the cross-sections the one at the middle of the leg is the only one which shows it at all clearly.

The *external border* C is the one known as the external border of the fibula (Quain) or the posterior border (Gray)[4] running from the styloid process to the back of the malleolus. The cross-sections show that this is at the outer part of the fibula above and at the posterior below.

[2] The description should be followed on the figures of the cross-sections, as well as on the views of the surface. The former were made from a ligamentous preparation imbedded in plaster so that the proper relations might be preserved. The figures are of the natural size.

[4] Postero-external. Gray. Last edition.

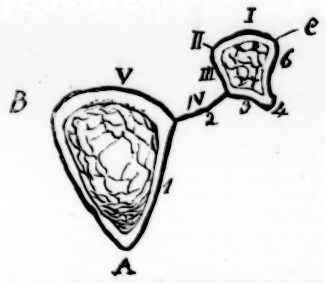


FIG. 2. Near the middle. Though the lines on the surface are well marked, these bones are probably from an old person as the tibia has much less solid bone below the crest than usual.

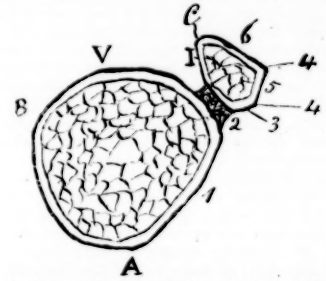


FIG. 3. About one inch above the lower surface of the tibia. The interosseous ligament is seen in place of the membrane.

The *internal surface* is bounded by the anterior, and internal borders A and B. It is seen much fore-shortened in Figures 4 and 6. It is the internal subcutaneous surface of the tibia. Passing the fingers down this surface one perceives that it is slightly convex in the upper part, slightly concave in the lower.

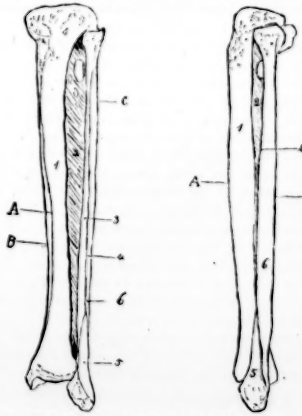


FIG. 4. FIG. 5.

Figure 4 gives the anterior and outer aspect.
Figure 5 gives the outer aspect.

The *antero-external surface* is bounded by the anterior and external borders, A and C. It is much broader above than below, owing to the greater size of the upper part of the tibia and the greater separation of the bones. Its upper portion looks obliquely forwards and outwards but its lower is continued round to the back of the fibula. It presents the following features from within outward (which are marked by corresponding Arabic numerals on the figures): (1) A smooth surface formed by the tibia, the upper two-thirds of which looking outwards give origin to the tibialis anticus. Just below the inner tuberosity of the tibia, the inner part of the origin of the extensor communis is attached to it. The lower third of this surface twists forwards on to the front of the tibia, where it is covered by the extensor tendons. (2) The interosseous membrane forms the floor of a gutter which is shallow and broad above, deep and narrow below. It has one or more openings near its upper angle, of varying size and shape for the passage of vessels and nerves. The three chief extensors all arise in part from the membrane. (3) A narrow portion of the fibula looks inward, forming the outer wall of the gutter and giving partial origin to the common extensor and to that of the great toe. This surface is so perfectly clear when the bones are in place and united by membrane, that it is hard to realize how perplexing it may be on the separated fibula, especially if it be a poorly-marked one. (4) Next comes a ridge, the so-called anterior border of the fibula. It begins near the head of the bone, but at first it is often indistinct. It is very sharp about the middle of the leg. It bifurcates some three inches above the tip of the outer malleolus, one line going to the front, the other to the back of that structure and inclosing (5) a triangular subcutaneous surface looking outward above the outer ankle. (6) The last feature is a surface for the peroneus longus, and peroneus brevis, which beginning at the outer side of the fibula twists to its posterior aspect so that the tendons of these muscles pass behind the malleolus. This surface is strikingly smooth and its spiral course very evident. The two greater peronei are enclosed in a fibrous chamber by fasciæ passing inwards from the deep fascia of the leg to the anterior ridge of the fibula (4) and to the external border of the combined structures (C).

The *posterior surface.* Continuing our course round the back of the leg, we meet from without, inward after passing the external border (C), the following features (marked on the figures with Roman numerals): I, a surface on the fibula looking above, backwards; below, inwards. In its lower quarter it reaches the interosseous membrane. From its upper portion, arises the outer part of the soleus and from its middle portion (more than its middle third) the flexor longus pollicis. II, a ridge called the oblique line of the fibula (Gray),[5] the internal border (Quain) starts from the back and inner aspect of the head of the fibula and twisting inwards and forwards strikes the interosseous membrane somewhat above the lower quarter of the leg. Above this point, another surface, III, looking inward, comes between the ridge and the interosseous membrane, IV. This membrane is at the bottom of a deeper depression than in front. It gives origin to only one muscle, the tibialis posticus, which encroaches also on the bones on either side. It ends below in a sharp angle between the bones just above the interosseous ligament, the surfaces for the attachment of which are not seen when the bones are together. Next comes V, the posterior surface of the tibia. In the upper part of this the oblique line, VI, running downwards and inwards from the head of the fibula, marks off the popliteal surface, and gives origin to a part of the soleus. At about the juncture of the first and second quarters, or rather lower, is the nutrient foramen, the largest in the body, which is directed downwards. If the parts are very vascular, as the result of inflammation, the nutrient artery may give trouble after amputation. The foramen is sometimes very close to the interosseous membrane, sometimes half-an-inch from it. The much smaller canal for the fibula is on one of the posterior surfaces of the bone; most frequently on that marked I. In the forearm the nutrient foramina are found, also on the flexor surface of the bones, but there, they run towards the elbow and here they run from the knee. A much less distinct line is seen running nearly vertically about the middle of the bone, which separates a broader inner portion, from which arises the flexor communis, from a narrower outer one, beside the membrane which gives origin to the inner part of the tibialis posticus.

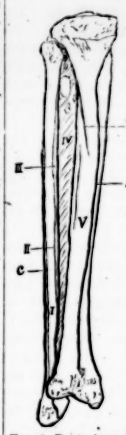


FIG. 6. Posterior and inner aspect.

After this detailed description of the ridges and surfaces of the bones, we return to the study of the twists of the bones and we shall find it a less simple problem than is generally supposed. We saw at the beginning, that the lower part of the skeleton of the limb is twisted outward to allow the foot to assume its characteristic, human position. If we follow the ridges of the fibula, excepting that for the interosseous membrane, we find them pursuing a corresponding course. The surface for the peronei (6), shows this feature strikingly, and the one just beyond it on the posterior aspect (1), hardly less well. Now as the axes of the ankle-joint is determined chiefly by the tibia and as it is undoubtedly turned outward we should naturally expect to find the borders and surfaces of the tibia, turned the same way, but we do not find such to be the case. On the contrary, we find the anterior crest of the tibia twisting downwards and inward to the inner malleolus, and the two surfaces which it separates, to take a similar course. The twist of the posterior surface of the tibia is more difficult to analyze. It would seem as if, at least, the greater number of the surfaces of both bones twist as they descend away from an imaginary line between them.

It is interesting and important to know how much of the bones can be felt during life. The whole of the front and sides of the head of the tibia are easily made out, but it is deeply placed behind and obscured by the hamstrings and the gastrocknemius. The tubercle is very prominent in front, just at the insertion of the ligament of the patella. It is worth knowing that the tubercle is a part of the superior epiphysis of the tibia, which descends further in front than elsewhere. At the sides its line of union coincides with the lower border of the tuberosities. It

[5] Postero-internal. Gray. Last edition.

includes, therefore, the articular surface for the head of the fibula and the upper anterior aspect of the latter, indicates pretty nearly the position of the line. The crest of the tibia is easily traced downwards from the tubercle. The finger that follows it reaches the inner malleolus. In muscular legs the tibialis anticus, projects somewhat beyond it, and this together with the dense fascia covering the extensors that springs from the crest tends to make it a far less prominent feature in the living than one would expect from the skeleton. In athletes, antique-statues and outline-drawings, there is a striking curved line in the leg, which the ignorant might easily mistake for this ridge, but which is caused by the internal border of the tibia. It is well shown in both legs, but especially the left one, of this outline from Flaxman's illustrations of the Iliad, representing one of two giants holding Mars captive. Notice that the line begins high up under the inner tuberosity of the tibia, and ends at the back of the inner ankle, corresponding perfectly to the internal border (B). One of the reasons why some are deceived is that they expect this border to be at the inner side of the leg, in the flesh as it is in the bones, forgetting that the great muscles of the calf, overlap it considerably and fill in a good part of the outline of the leg, even when seen from the front, as in this figure. This border curves forwards as well as outwards, so that this feature can be seen not only from the front but from the side. The subcutaneous internal surface of the tibia can be felt throughout.



FIG. 7. "Otus and Ephialtes held the chain."

The anterior surface of the tibia below the origin of the tibialis anticus is easily felt just above the ankle, though it is obscured by the extensor tendons passing over it. The head of the fibula is to be felt far back on the outer aspect of the leg. Very soon the peronei cover the shaft with a thick pad so that, although the position of the bone can be made out, its outlines are concealed till we get down to the triangular, subcutaneous surface, beginning some three or four inches above the ankle. The greater length, the more posterior position of the outer malleolus as well as the difference in shape from the inner one are easily recognized.

— The Court of Appeals of St. Louis has refused to incorporate the "Institute of Christian Science."

Original Articles.

LEAD-POISONING AS A CAUSE OF MUSCULAR INCO-ORDINATION (PSEUDO TABES.)[1]

BY JAMES J. PUTNAM, M.D.

IT is well known that a number of cases have been described within the past few years, usually presenting a greater or less number of the symptoms which we are in the habit of referring to multiple peripheral neuritis, such as objective and subjective sensory disorders of a variety of kinds, and muscular wasting, with diminution of electrical irritability, but characterized above all by inco-ordination in the use of the muscles of the extremities.

The analysis of these cases shows that this inco-ordination may occur without many of the other symptoms of neuritis, just as, in other cases of the disease, the cutaneous sensory disorders may predominate, or even occur alone, or as paralysis may come on, and after lasting for a short time, disappear, without leading to muscular atrophy.

To this group of cases the name of pseudo tabes has been given, and although this name is not really a suitable one for many of the examples reported — those, for example, where the knee-jerk is exaggerated instead of being diminished — yet it is of temporary value as indicating the possibility of confounding cases of this kind with true locomotor ataxia, a mistake which has, in fact, no doubt often been committed.

In such cases as those which form the subject of this paper, there is a true impairment on the part of the patient's ability to co-ordinate their movements accurately, probably due to a loss of the impression coming from their muscles; but another class of cases has also been included under this same name of pseudo tabes, where there is no true inco-ordination, but a disorder of movement due to loss of power on the part of certain groups of muscles. In these cases the gait of the affected patient is of a character that has been likened by Professor Charcot to the movement of a high-stepping horse, because, in consequence of the paralysis or weakness of the extensors of the foot, the toe drops when the leg is lifted, and the knee has consequently to be raised unnaturally high in order to clear the foot from the ground. Furthermore, these patients, on account of their muscular weakness, often walk with an uncertain and somewhat straddling gait.

Of this latter group of cases I do not intend to speak further, although they are doubtless related, pathologically, in many respects, to those where true muscular inco-ordination is present.

All that is absolutely known, so far as I am aware, of the pathology of pseudo tabes of neuritic origin is furnished by the results of three autopsies, two of them reported by Déjérine,[2] and the third by Dreschfeld.[3] In these three cases the disease was presumably of alcoholic origin.

The clinical histories agree in all essential particulars with the clinical pictures already indicated. The central nervous system was found practically unchanged in all, whereas there were marked changes in the peripheral nerves.

The microscopic examinations in the two cases re-

[1] Read before the Boston Society for Medical Development, Nov. 30, 1887.
[2] Arch. de Phys., 1884, Nervo Tabes Périphérique.
[3] Brain, 1885, Vol. VIII, p. 433.

ported by Déjérine were especially careful, and showed a degenerative process, mainly confined to the cutaneous nerves, but probably affecting, also, as he thinks, the nerves of the muscular sense.

Besides these cases, the pathological diagnosis of peripheral neuritis as a possible cause of muscular inco-ordination receives much support from what we know of other forms of this disease with which this form is often so intimately associated, and the indirect pathological evidence of this kind is now considerable.

The conditions under which pseudo tabes has been observed are, in the first place, chronic alcoholism; then, in cases of poisoning from arsenic, lead, sulphide and oxide of carbon, diphtheria, and other acute infectious diseases, and perhaps certain vegetable poisons.

Finally, the number of cases reported as traceable to these various causes is so small that in a given instance we cannot always safely assert that the relation between the apparent cause and the symptoms is more than one of coincidence. Furthermore, it is to be remembered that we get the symptoms of the so-called pseudo tabes in a more or less characteristic form, where the sensory tracts are diseased in another part of their course, namely, the posterior columns of the spinal cord. It will be pointed out further on that it is not always easy to say whether we are dealing with a case of inco-ordination from neuritis, which will probably be curable, or with the first stage of certain types of posterior or combined sclerosis of the cord which are likely to prove incurable.

As compared with the other symptoms of multiple neuritis from these different causes, the cases of inco-ordination are rare. Even in chronic alcoholic poisoning, where they are the most common, the whole number reported in literature is very limited.

Of the cases due to arsenic, of which a complete and excellent summary is given by Dr. C. L. Dana in *Brain* of January, 1887, the whole number reported amounts to seven. Two of these cases are described for the first time by Dr. Dana himself, and are of special interest, apart from the clinical picture which they present, from the fact that in one of them the arsenical poisoning was acute, and due to a single dose; while in the other it seemed to be traceable to the continued ingestion of small quantities, taken for medicinal purposes.

The reported cases which we have reason to believe may be of *plumbic origin*, consist only in two, so far as I know, of which I shall take the liberty of giving a brief account.

The first case was reported by Teissier, in the *Gaz. Med. de Lyon*, 1861–1862, and is cited at length in the thesis upon pseudo tabes by Leval-Picquechef, published in 1885. The patient was a young man of twenty-four years, who had worked as a plumber for two years previous to his illness, for which no other cause than lead-poisoning could be assigned. His symptoms, at the time of his first examination, consisted in increasing difficulty in the use of his arms and legs; in progressive impairment of vision and of memory; emaciation, headache and vertigo. He suffered also from sensations of prickling and numbness in his extremities; the sense of touch was found to be diminished in patches, and his speech was somewhat indistinct. On careful examination it was found that the difficulty in the use of his limbs was due, not so much to the loss of muscular strength as to the impairment of his co-ordinating power, and this was so great that he could scarcely stand, or hold a pen. As is usual in cases of this kind, it was extremely difficult for him to keep his limbs in a fixed position. There was a marked lead-line on the gums. After treatment for three months in the hospital, the patient was discharged, much relieved, in all respects, but not entirely well.

The second case is reported by Raymond, and was first published in the important monograph upon chronic lead-poisoning by Renaut (L'Intoxication Saturnine). It is of unusual interest on account of the short time during which the patient was exposed to the poisonous action of lead, and for other reasons. The patient was a man of forty-two years, and began to work in a lead manufactory of Clichy towards the end of January, 1874. He gave up work on the 25th of March, that is after about two months. He had never worked in lead before, and showed no symptoms of lead-poisoning, or other important impairment of health. On the 20th of March, that is five days before he left work, he had an attack of colic, which lasted for nearly two weeks. On the 25th of March he had a convulsion of two hours' duration, and, four or five days later, another convulsion of similar kind. On the 2d of April he became quite suddenly very ataxic, so that he could not carry a cup to his mouth without spilling the greater part of its contents. This ataxia was preceded by a moderate degree of muscular weakness. The next day he had marked formication in his lower extremities, and a few days later could only walk with great difficulty. He had also pains in the head and impairment of sight and of hearing. The inco-ordination of the arms improved as that of the legs came on. There was considerable loss of strength in the arms, but no marked atrophy; and the strength of the two arms was equal, while the inco-ordination was greater on the left side. The loss of hearing was also greater on the left side. Anæsthesia of all kinds was present. In spite of their severity the ataxia symptoms were nearly well after four months of treatment. There was a lead-line on the gums.

To sum up the history of these interesting cases, we have two patients, both exposed to the causes of lead-poisoning, and both showing a lead-line on the gums, and one of them, in addition, characteristic colic and confirmatory cerebral attacks, and both exhibiting a series of symptoms, severe and yet curable, similar to those which we have learned to diagnosticate as pseudo tabes.

I desire to call especial attention to the fact that tenderness of the muscles on pressure is not mentioned as present in either of these cases, and that, for the second, the severest case, at least, it may be certainly assumed to have been absent, because the report says, in speaking of the sensibility, "there are two painful areas in the left leg, in the neighborhood of the articulations of the ankle and the knee; except from these both legs are anæsthetic," etc.

To these two cases I believe that I am able to add three more of my own observation.

The first case is that of a young lady twenty-seven years of age, in good circumstances, and of good previous health. She first consulted me on January 22, 1886, for serious inco-ordination and impairment of muscular strength, affecting, at that time mainly the hands and arms, and impairment of vision, especially

of the left eye. She gave the following interesting history:

The sickness had begun towards the end of the previous August (1885), with aching pains in the elbow of the left arm, and numbness and prickling, with loss of sensibility, along the back of the left forearm and hand. It is especially noteworthy as indicating a peripheral localization of the disease that, at that time, the forefinger and thumb were affected alone, that is, without the other fingers. The same aching pains then attacked the right hip, and similar, but severer, numbness affected the whole of the right leg on the under side, as far as the foot, and including the latter. The affected limbs, at the same time, became more or less weak, but it is interesting to note that, subsequently, this weakness improved rather rapidly. The right hand and the left leg were attacked in the same manner in the following November, that is, three months later. Since then, while the the right hand has been growing worse, the legs have been improving, so that she now feels no numbness there, and can walk with ease.[4]

In the same month (November), she first noticed a sensation as of a broad band drawn tightly around the body below the breasts. This symptom lasted for some weeks, and then passed gradually away, though she is still conscious of it from time to time. Lest it should be thought that the presence of this girdle sensation stamps the case as one of ordinary myelitis, I will here remark that it is occasionally described in cases otherwise characteristic of multiple neuritis, and so diagnosticated by good observers, as, for example, in Obs. III. in the thesis on pseudo tabes, of Leval-Picquechef.[5] The irritation which causes it may occur anywhere, and must occur somewhere, in the course of the sensitive nerve or nerve-roots of the two sides, but it certainly did not, in this case, correspond to the upper level of a transverse myelitis.

At about this same period (Nov., 1885), the vision became blurred, especially, or as she thinks, exclusively, that of the left eye. This blurring came on, she says, quite suddenly, but has steadily increased, so that she has given up trying to read. At first it seemed to her as if there were something in front of the eye which she tried in vain to brush away. There was no double vision. Her feet and hands felt very cold, so that even in August weather she was obliged to use hot-water bottles. There was no fever at any time, and she had had no pain except that described as occurring at the onset of the sickness. No cause could be assigned for the illness, except as hereafter to be stated. Her sister said, as regarded the time of appearance of the first symptoms, that she remembered the patient speaking of weakness of the legs some months before the final outbreak.

My notes of the physical examination are as follows:

The patient's appearance suggests a naturally healthy person. The pupils are unusually large in moderate light, but are equal and respond well to light; very slightly, however, with efforts of accommodation. The hands, in consequence of slight atrophy of their intrinsic muscles, show the "bird-claw" deformity in some degree, with an approach to the simian position of the thumb. The position of the right thumb can be voluntarily corrected somewhat, so that the thumb and little finger can be touched together. The left hand is worse than the right, and the interosseous muscles on the ulnar side of both hands are more affected than the others, so that the two smaller fingers remain crooked even when a strong effort is made to straighten them. The thenar eminence is also slightly wasted, but, on the whole, the appearance of atrophy is not marked. There is no marked change in the muscles of the right forearm, but the left forearm is cooler than the right, and measures one c.m. less, (right, 22.5; left, 21.5;) and the long flexor muscles on the ulnar side are somewhat wasted. The grasp with the left hand is weaker than that with the right, though both are weak.

The most striking symptom relating to the hands is, however, a high degree of inco-ordination of movement, associated with almost complete loss of the sense of position and impairment of the tactile sensibility, the latter, however, almost confined to the hands — and most marked at the ends of the fingers. The deep prick of a pin is distinctly recognized, but the point and head are distinguished with difficulty on light contact. Slight differences in temperature are distinctly recognized, even with the finger-tips. The inco-ordination is increased by closure of the eyes, but present even when the eyes are open. The loss of muscular sense is so great that the presence of a weight of fifty grammes held in the hand, with the arm bent at a right angle, is but just recognized with the left hand, and a weight of one hundred and fifty grammes is not felt with the right hand, although, in other respects, the right hand is in much the best condition. There is absolutely no sense of position of the hands, and, when the patient is not looking on, the fingers wander off in constant movement. The thumb and forefinger are less clumsy than the other fingers. The gait is now practically normal, though the legs are said to tire more easily than formerly. The muscles of the calves are rather flabby and small, but the patient can raise herself on the ball of either foot alone. She can also balance herself fairly well on either foot, and the difficulty in doing this is not much increased by closure of the eyes. The cutaneous sensibility of the legs (left alone tested), is slightly, but very little diminished. A light touch often passes unnoticed, but the prick of a pin is distinctly recognized, and the æsthesiometer points are distinguished at a distance of one and a half to two inches. The knee-jerk is markedly exaggerated on both sides, and the "front-tap" contraction is well marked. No distinct ankle-clonus is brought out by the usual methods of testing, but "trotting" of the leg is easily excited, and has been noticed by the patient herself. There is also some exaggeration of the myotatic irritability of the forearm muscles.

I will here remark that whether this increase in the myotatic irritability indicates an involvement of the spinal cord or not, it has several times been observed in cases diagnosticated as multiple neuritis (Möbius, Strümpell, Brissaud, and others), and I have myself seen it repeatedly in undoubted cases of lead-poisoning.[6]

The electrical examination shows the reaction of the ulnar nerves to be equal on the two sides, and nearly or quite normal to both currents, The inter-

[4] A similar rapid alternation of symptoms between the arms and legs is reported in Raymond's case.

[5] Loc. cit.

[6] Lead in the urine, etc. J. J. Putnam, Boston Med. and Sur. Jr., 1887, July 28th and August 4th.

osseous muscles and the opponens pollicis of the left hand react rather more readily than those of the right, in spite of being more atrophied. There is no degenerative reaction. Both disks look rather pale, but not beyond physiological limits. At a second examination I concluded that the right disk was normal. The left disk is more opaque than the right, though not absolutely beyond the limits of possible health. The vessels of the left disk show whitish lines along their borders, and there is, altogether, more connective tissue on the left than on the right disk. With the inverted image method, however, no difference in color is seen. The rest of the fundus is normal, and the media are clear. Fine oscillatory movements of the right eye are noticed during the examination.

This patient has been in the habit of drinking for a part of each year, and that during the winter season, water from a very old well which was sunk under the floor of the house, its exact position not being known. The water was pumped through a lead pipe, and was reported by Dr. A. M. Comey [7] as "bad-smelling and filthy," and containing "an enormous amount of lead, considering that it is used for drinking."

The urine contained no albumen, but a large amount of lead.

In spite of the fact that up to the time of my examination the patient had been steadily losing ground in the use of the arms (although, to be sure, the legs had improved spontaneously), she improved decidedly under treatment, so that, nine months later, her sister writes that she "can use her hands almost as well as ever, although there still remains some of the numbness, and she has not fully recovered her sight." According to later reports her condition has varied from time to time, and though much better, she is not entirely well.

The second case is that of a young lady of fifteen, in good circumstances, not of neurotic temperament or antecedents.[8] She was first seen by me in consultation with Dr. Wadsworth, of Malden, in April, 1887, for slight inco-ordination of the muscles of all four extremities, and difficulty in the use of the eyes. She gave the following history:

Her health had been good up to last fall, except for occasional headaches. Last fall and winter she had an increased number of headaches, each attack sometimes lasting several days, and the pain being referred to the forehead and vertex. On the day following one of these attacks she was very dizzy, but there was no nausea or vomiting. In the latter part of the autumn she had partial loss of control of the bladder, lasting several months, but ceasing when she stopped going to school, and going out into the cold. She left school in March, 1887, mainly because the teacher noticed that her eyes had a peculiar expression, and, perhaps, because there was some difficulty in reading, although the patient now thinks that she did not herself notice much trouble in reading at that time. For a few weeks previous to my examination, however, the patient had found it impossible to read, unless, perhaps, a line or two at a time, the words blurring and running together. She can recognize her friends, but has, as she says, "the greater part of the time," distinct diplopia. Since the middle of March she has noticed an unsteadiness of gait, and while walking feels dizzy, probably on account of the diplopia. With this there has been impairment of strength, noticed, for example, in sitting down or rising from a chair, and a sense of fatigue in the legs. About Christmas time the ends of the fingers of the right hand felt numb and prickly for a week or so, but there was no difficulty in using them. The left hand began to be numb about the middle of March, at the same time with the onset of the symptoms above described, the numbness affecting mainly the fingers, but also the whole hand from the wrist downward. This numbness was persistent, not accompanied by pain, and disappeared about ten days before my examination, passing away quite suddenly.

The notes of my physical examination are as follows:

April 8, 1887. Slight but well-marked ataxia in both the upper and lower extremities. Grasp of both hands weak; left much weaker than right; left leg also weaker than right. Patient can stand on either leg and balance herself fairly well, even with her eyes shut. A staring expression of the eyes is very noticeable and there is well-marked diplopia. On examination it was found that the right eye cannot be moved inward much beyond the median line, and only very imperfectly upward and downward. The motion outward is perfect, or nearly so. All the motions are accompanied with more or less jerking of the eye-ball. The left eye is in a similar condition, but all its movements are better preserved. The pupils react well to light. Vision of the right eye is much impaired, so that print which can be seen at about eight feet with the left, is seen only at about two feet with the right. Field of vision but little, if at all, impaired. Knee-jerk exaggerated on both sides, and imperfect ankle clonus present. Attention is called to the fact that the right eye and the left limbs are the worst. Patient is said to be more dull and apathetic than before her sickness began, though not so much so now as at an earlier time.

An opthalmoscopic examination was made, and seemed to show an abnormal paleness of the disks. At a subsequent examination, however, made a month later under more favorable conditions, the disks appeared normal, and as, by that time, the eyesight had become almost completely restored, it seems highly probable that the original difficulty of vision was one of accommodation only. At the first examination some of the muscles of the left arm seemed to be somewhat wasted, but the difference may perhaps have been no more than natural.

On May 26th, seven weeks later, the report of her condition was as follows: Better in every respect. Thinks the hands are as well as ever. No staggering. In fact, the only difficulty that seems to remain is a slight trouble in reading. On examination it is ascertained that there is double vision only when the eyes are carried far to the left, and under those circumstances the right eye is noticed to twitch slightly.

On electrical examination the reaction of the muscles is found apparently normal, that is, there is no essential difference in reaction between the flexors and extensors of either arm. None of them, seem to react quite as rapidly as those of health but this is uncertain. The flexor muscles of the left arm are not quite so large as those of the right, but the grasp is nearly, if not quite, as good.

On examination of the urine of this patient, lead was

[7] Vide Lead in the urine, etc. Loc. cit.

[8] This case has been already reported (loc. cit.), but I give it again at somewhat greater length for the sake of completeness.

found to be present. The only source from which lead could have come is indicated in the inclosed letter from Dr. Wadsworth.

"Mr. G. told me after you had gone, that, last summer, during July and August, the family spent a couple of months at ————, where he built a house and drove a pipe some seventy feet for water. The sections of pipe were screwed together, and the joints covered with white lead, so that a good deal of lead would be left on the inside of the pipe, and this supplied the house with water."

Still later the patient reported herself at my office perfectly well in every respect.

The third case was seen by me in consultation with Dr. Francis, of Brookline, on January 13, 1887. The patient was a lady in good circumstances, forty-five years of age. She was passing through the menopause at the time her sickness began. Up to October, 1886, her health was pretty good. At that time she began to show signs of a peculiar form of indigestion, and very shortly afterwards had uncontrollable vomiting, which lasted about six weeks, and was so severe as to make it necessary to feed her by rectal injections. This condition at last passed quickly away, and she became able to take every kind of food as well as before. Then occurred what seemed to be a sort of hysterical mania, in which she was seen by Dr. F. Minot, in consultation, and although the worst phase of this soon passed off, she had never since been in her normal state of mind, behaving rather childishly, and taking her illness more lightly than might have been expected. During the height of the attack, and even after that, she had some incontinence of urine at times. A few weeks before my examination the present condition developed itself.

My report of the physical examination is as follows:

The patient sits in a chair with an indifferent expression and no appearance of suffering. The legs are bent at the knee, and the left cannot be fully extended. There is marked ataxia of the hands, increased by closure of the eyes. All movements are possible of all four extremities, but feeble. There is some tenderness on deep pressure in the calves, especially the left, but not of the nerves in the popliteal space. The knee-jerk is absent (except that it was obtained once to a slight degree on the right side). The temperature of the skin of the legs seems normal. There is great muscular relaxation everywhere, and great general emaciation, but no atrophy. The tongue protruded straight and without tremor. There is no lead-line. The heart is normal, but weak. The patient is unable to stand alone, but this probably proceeds more from deficient innervation than from weakness. Sensibility to touch or pricking normal on the hands. No ocular symptoms.

The patient was advised to enter the Adams Nervine Asylum, where, in the course of some months' treatment, she gradually improved, although even now, at the expiration of fourteen months, she walks only with crutches, and then with some difficulty, and has still some inco-ordination in the use of her hands.

Dr. S. G. Webber, under whose care she passed, has been kind enough to send me the following notes. I should say that I did not make the diagnosis of neuritis, because I thought that the local symptoms were insufficient, but concluded, erroneously, as I now believe, that the symptoms were of functional nervous origin. Dr. Webber after careful examination, concluded that neuritis accounted for many of the symptoms at least. He did not, however, exclude the possibility of central disease as well.

"When she came to the asylum Mrs. L's condition was as follows: Pupils, eyes, facial muscles and tongue moved naturally. There was slight inco-ordination of the hands, but no tremor when extended. Sensation was only slightly impaired at that time, but later seemed to become more so. There was impairment in the sense of localization in the feet. No patellar reflex. No ankle clonus. Left leg was contracted, slightly flexed at the knee, and its strength was less than that of the right leg. The peronei muscles reacted but very slightly to the faradic current, the vasti interni scarcely at all, the interossei and the long flexors of both hands very much less than normal; the rest of the muscles reacted better. The mental condition was peculiar. There was an unusual degree of childishness. The memory was weak. It was not possible for her to read any long paragraph or article. During her stay she improved mentally, but the memory for recent events remained impaired throughout. At one time, while taking iodide of potassium, she had much tingling in the fingers, and even pain, so that I diminished the dose. At first there was hyperæsthesia of the muscles on pressure. She gained very slowly in all respects, but before she left us the electric reaction had improved, except those of the vasti interni.

The treatment consisted in iodide of potassium, five grains, three times daily; later, two and a half grains; massage, electricity, and symptomatic treatments of various kinds.

Lead was found in Mrs. L.'s urine, once, in such large quantity that I thought there must be an error, especially as there had originally been tin foil over the cork of the bottle. I then took extra precaution to exclude accidental sources of contamination, but lead was again found in large amount."

The symptoms to which I would especially call attention in these cases are the following:

First. The rapid spontaneous improvement of the legs in the first case at the time when the arms were still growing worse; and, in the second case an eventual improvement so rapid that it might suggest that we had to deal with functional and not organic disease. It is, however, well known that an equally rapid improvement has previously been reported in cases of this kind. As an instance of this sort I will call attention to the case cited above from Raymond, as well as to another very interesting case reported by Lilienfeld in the *Berliner Kl. W. schr.* for 1885, page 726.

Second. The exaggeration of the knee-jerk, to which I have already referred, and the bearings of which I have discussed elsewhere.[9]

Third. The serious character and protracted course and possibly central origin of some of the symptoms in cases I and III.

The class of cases to which special reference has been made in this paper are mostly curable, or at least susceptible of great improvement, though sometimes their symptoms are of long duration, and some of them may persist indefinitely. Partly on account of this curability, it has been assumed that the peripheral nerves are the chief seat of the disease, so

[9] Loc. cit.

far as the motor and sensory symptoms are concerned and that the spinal cord is nearly, or quite, unaffected. How far this conclusion is justified, we have not as yet sufficient material to decide. The myelitic changes, if they exist, are certainly not of a progressive type. The differential diagnosis, however, between these cases and the early stages of certain others of really spinal origin, and of progressive and fatal course, is by no means always easy.

A typical case of true locomotor ataxia, by the time it has reached the ataxic stage, usually presents enough distinctive features to make this error impossible, but sometimes the posterior columns of the cord, either alone or in combination with other tracts, become diseased in such a way that inco-ordination comes on quite rapidly, attended by alterations of the sensibility, beginning in the hands and feet, and sometimes by amyotrophic or paralytic symptoms, not altogether unlike those which are due to multiple neuritis.

A case where this doubt as to the diagnosis might be entertained, especially in view of the recovery of the patient, is quoted by Leval-Picquechef, from a communication by Raymond, who had made the diagnosis of *diffuse subacute myelitis, involving principally the posterior columns.* The patient was a man, forty-two years of age. Two weeks before the examination he felt, on arising in the morning, sensations of prickling and numbness in the arms; in the afternoon his legs became weak, but not so as to prevent walking; next day he was unable to stand, and lay in bed suffering from formication in the extremities, worse at night; pains in the legs and muscular twitching, and headache. On examination, he was found to have slight paresis of the left side of the face, and slight difficulty in speech, and in deglutition; the muscles of the legs were tender on pressure; the tactile sensibility was slightly diminished, and there was a certain degree of delay in the sensitive conduction from the inner side of the foot. There was also marked inco-ordination in the lower extremities on attempting to walk; and the knee-jerk was wanting. This patient remained under observation for a little more than three months, at the end of which time he had almost entirely recovered.

Another case which is suggestive from this point of view is one which I have lately had occasion to observe myself, through the kindness of Dr. M. A. Morris, of Charlestown. The patient was a woman of seventy-three years, who had been excessively anæmic, and for two years before my examination had felt sensations of numbness and prickling in some of the fingers of both hands, gradually increasing in severity. A few weeks before I was asked by Dr. Morris to examine her, she had been attacked rather suddenly with inco-ordination of movement which at first affected mainly the lower extremities, but, later, the upper equally. This increased rapidly, so that she soon became confined to bed. Besides the inco-ordination, there was great impairment of sensibility in all its modes. The lower extremities soon became entirely paralyzed, but this was due, mainly, to the development of acute myelitis in the dorsal region, which may be regarded, for the purposes of the present argument, as an accidental complication, although it was eventually the cause of the patient's death, which occurred a number of weeks later.

The examination of the spinal cord showed a destructive degeneration of both the posterior and lateral columns throughout their whole extent, both above and below the seat of the acute myelitis. In this case the knee-jerk was greatly exaggerated, but, as we have seen, it is not safe, for this reason, to exclude the possibility that peripheral neuritis may be the prominent pathological condition and the prognosis favorable.

It is doubtless true that in most cases a careful study of the symptoms, etiology, and history will enable us to reach a satisfactory diagnosis in these doubtful cases, but it is also true that, considering the great differences in the clinical pictures presented by different cases of peripheral neuritis, and the long duration of some of the symptoms, it might easily be possible to mistake a pseudo-tabes of this origin for the early stage of incurable myelitis, and vice-versâ.

Finally, it must be admitted that when we say that we believe the symptoms in a given case to be due to arsenic, lead, etc., we must as yet, considering the small number of cases that have been reported, tacitly make the reservation that the disease and the exposure may perhaps have been coincident only.

RECENT PROGRESS IN OPHTHALMOLOGY.

BY MYLES STANDISH, M.D., BOSTON.

THE PUPIL SYMPTOMS MET WITH AFTER HEAD INJURIES.

Jonathan Hutchinson, Jr.,[1] in a review of the pupillary symptoms met with after head injuries based principally upon cases in the London Hospital, says: "A warm discussion has lately been held as to whether the human iris possesses any dilator fibres, the affirmative being maintained by Iwanoff, Merkel, Jeropheeff, and Henle, whilst Grünhagen resolutely denies the existence of any such muscles, and is supported to some extent by various observers."

Dr. Gaskell sees "no urgent necessity for a special musculus dilator pupillæ; variations in the extent of the contraction or relaxation of the sphincter are quite sufficient to account for all the differences in the size of the pupil, if only the radial fibres of the pupil possess, as Grünhagen thinks they do, a sufficient amount of elasticity." Dr. Gaskell points out the close resemblance of the nerves which dilate the pupil to those which inhibit the circular muscles of the intestine, and hence speaks of the former as the "cervical splanchnic," although, perhaps, it would be more convenient to use the term pupil inhibitor. The existence of such inhibitory action on the part of the cervical sympathetic, will probably come to be universally admitted, although there may be in addition dilator fibres, the existence of which in birds and certain other animals is not denied. As Gaskell observes, "The attempt to attribute dilation of the pupil to contraction of the bloodvessels of the iris, is for several reasons, not worthy of discussion." (See also these papers, August 5, 1886).

PUPILS IN CONCUSSION OF THE BRAIN.

During the collapse stage the pupils are neither contracted nor dilated, and they respond to strong illuminations, but not infrequently the pupils tend towards slight myosis, and inequality is occasionally

[1] Ophthalmic Review. Vol. VI, Nos. 66, 67, 68.

seen. Whatever view be taken, as to the condition of the cerebral circulation (and both extreme congestion and anæmia have been found in cases after death from concussion), it is not doubted that the cerebral functions are, to a more or less complete degree, suspended by the violent shaking that the brain undergoes. Hence the condition of the pupils would be expected to be the same as during sleep and the anæsthetic stage of chloroform inhalation. In a few cases of concussion fixed mydriasis on both sides is noticed. Our author thinks that possibly this may be due to an irritation of the nerves of the dura-mater as Bochefontaine found that on irritation applied to the dura-mater in dogs there was a decided temporary mydriasis, but also draws attention to the fact that Dr. Ferrier has found that irritation of the posterior part of the superior frontal convolution of either side is followed by dilatation of both pupils, attended with movements of the head and eyes. Where there is one-sided mydriasis following concussion, two cases are cited to show that occasionally they are to be explained by injuries to the third nerve or its nucleus. In the after-results of injury to the cortex and deeper parts of the brain, it is the general rule that with the onset of inflammatory reaction, the pupils become strongly contracted, although the lesion may be at some distance from the corpora quadrigemina.

COMPRESSION OF THE BRAIN AFTER HEAD INJURIES.

Surgical authorities are agreed as to the grave importance of insensitive and dilated pupils as a symptom of compression of the brain after head injuries, as pointed out many years ago by Guthrie. During the first onset of middle meningeal hæmorrhage, however, the pupils may still react to light, and whilst they do so, the compression of the brain is probably in a recoverable condition if trephining is immediately performed. Whilst double dilatation may be a symptom materially affecting the prognosis, fixed mydriasis on one side only, may with very strong probability, be taken to indicate that the hæmorrhage is occurring on the same side as that on which the pupil is affected. However, as has already been stated, one-sided mydriasis may occur from other lesions than compression. The current view with regard to the pupil symptom of compression, which was suggested by Hutchinson Senior, and endorsed by Jacobson, attributes it to pressure on the third nerve by blood-clot, situated about the cavernous sinus or just behind. This view our author combats and shows by the citation of cases that one-sided mydriasis is not due to pressure on the third nerve, but is probably to be ascribed to pressure on some cerebral centre. Probably pressure transmitted to the corpora quadrigemina must be taken as the explanation. That pressure occasionally produces irritation, and not paralysis of the pupil centres, is probable.

COURSE OF THE CERVICAL SPLANCHNIC.

The "cervical splanchnic" in its course to the eye was formerly assumed to pass through the lenticular ganglion, but of late some slight doubt has been thrown upon this. Hutchinson thinks that in man this nerve probably passes from the first or second dorsal nerve to join the cervical sympathetic cord, and bases his opinion upon the following case: the patient aged 54, was crushed between a railway-engine and the wall, as a result of which the three upper ribs on the right side were fractured. When a strong light was thrown upon the eyes the pupils were equal, but upon removing the light the right pupil dilated only to 3½ mm., the left to 4½ mm. On the right side the palpebral fissure was decidedly smaller than on the left, owing no doubt to paralysis of the Müllerian muscle, but the relative protrusion of the eyes appeared to be about equal. These pupil symptoms contined until his discharge one month later. The effect of atropine and cocaine agreed with what one would expect from the results of Koller, Jessup, and others. On instilling a five per cent. solution of cocaine, the left pupil dilated, whilst the right remained the same size; atropine, however, caused it to dilate from 4 to 6 mm.

OPHTHALMOPLEGIA EXTERNA.

Westphal [2] records a case of chronic progressive paresis of the ocular muscles (ophthalmoplegia externa), with a description of ganglion-cell groups in the region of the ocular-motor nucleus. The patient was a man forty-four years of age. In August, 1881, he had an attack of loss of consciousness, with paralysis of the right arm, which, however, recovered its power in a few days. This attack had been followed by others of a similar nature. There were two distinct scars on the penis, but the patient denied syphilis, of which there was no other evidence. When first seen by Westphal, in September, 1882, the ocular condition was as follows: The left eye was, through ptosis, half shut; there was little difference in the sight of the pupils (the left being slightly smaller than the right), the right reacted only very slightly to light, and the left not at all; there was a well-marked strabismus divergens, together with a complete paralysis of all the ocular muscles; the eccentric vision was good in both eyes; the vision of the right eye was not to any degree diminished, and the left eye was diminished about two-thirds; diplopia had been present. In February Dr. Uhthoff had noted that the papillæ were somewhat whiter than normal, and also, in April and May of the same year, that the temporal halves of the papillæ were distinctly whiter than the nasal halves. The arteries on both sides were somewhat diminished in size. Later the pupils did not react in the slightest to brilliant illumination. The accommodation was not affected. The fields of vision were of normal size.

In September, 1883, the pallor of the optic nerves had not increased, and progressive optic atrophy could not be said to be present: The tongue was protruded straight, but was partially atrophied, and showed slight fibrillary tremor; the speech was peculiar, but not characteristically paralytic; sensibility of the face diminished; taste uncertain; smell nearly lost (chronic nasal catarrh); the lower extremities were not wasted; gait fairly firm; the patella tendon reflex could not be produced upon the right side, and was barely noticeable on the left; cremasteric and abdominal reflex on both sides; upper extremities not markedly affected; the patient had melancholia, which persisted until his death, which resulted from pneumonia and œdema of the lungs, in October, 1883.

Autopsy. The pia mater was markedly œdematous and thickened. There was atrophy of the abducens, oculo-motor, and trochlearis nerves. Fatty degenera-

[2] Archiv für psychiatrie, Bd. XVIII., Heft 3.

tion of the ocular muscles on both sides. Gray degeneration of the posterior columns of the cord. Marked cylindrical widening of the ascending aorta, with much atheroma. Examined microscopically, the oculo-motor nucleus showed advanced degeneration, very few ganglion cells remaining and these much shrunken in appearance. The ocular muscles and nerves were in the highest degree atrophic.

It is interesting to note, in connection with the ophthalmoscopic appearance of the papillæ during life that the condition of the optic nerves was not that of simple atrophy such as is found in cases of tabes. The sections were made from a portion of the nerve just behind the bulb, where the bloodvessels lie in the centre of the nerve. The changes consisted in a thickening of the connective tissue septa, which extended into the very finest sub-divisions. The process only occupied a portion of the periphery of the nerve, the rest was healthy.

GANGLION-CELL GROUPS IN THE REGION OF THE OCULO-MOTOR NUCLEUS.

The following anatomical appearances are of especial interest as being described for the first time. Behind the atrophic oculo-motor nucleus, and in the upper part of the column of the nucleus, as far as the posterior commissure, were found, in a whole series of sections, and lying on both sides of the raphe, a peculiar group of ganglion cells (median). The group had an oval form, with the long axis partly parallel, and partly oblique to the raphe. Further in, another series of sections made laterally to the "median" group, but at a little distance from it, was found another group of ganglion cells (lateral), also oval in form, with the long axis horizontal. The ganglion cells of both were everywhere abundant, and much resembled those of the oculo-motor nucleus. The "lateral" groups are separated by a fine band of nerve fibres passing downward to the crusta of the cruscerebri, which are evidently continued from the cells of the above groups. This band widens out above, and, with the raphe, completely surrounds the "median" group of cells.

Westphal thinks that it is probable that these cell groups give origin to oculo-motor fibres, and calls attention to the fact that such groups have been described by Gudden, Darkschewitsch, and others, in newly-born animals and human embryos. With regard to the physiology of these groups, in this case the ocular motor nucleus was entirely degenerated, and that the external ocular muscles were all degenerated, while per contra, the internal ocular muscles, the ciliaris and sphincter papillæ, were healthy, and from these facts it is suggested that these muscles are innervated by the cell groups he describes.

Eisenlober,[3] on the other hand, reports a case of ophthalmoplegia externa progressiva and final bulbar paralysis, with an entirely negative autopsy. The patient was a girl, of eighteen years of age, and any acquired or hereditary syphilis was in the highest degree improbable. The patient was of neuropathic disposition, and had suffered, even when a little child, with migraine as often as twice a month, and later as often as twice a week, typical attacks, first on one side of the head, then on the other, accompanied by vomiting, and continuing generally twenty-four hours. It was impossible to ascertain whether the attacks of ocular muscle paralysis coincided, either in the commencement or in their recurrence, with the attacks of migraine. Two years before seen the patient had become suddenly diplopic, and the physician who then saw her said that the muscles of the right eye were impaired. Under the use of potass. iodid., the diplopia vanished in three weeks. This diplopia reappeared from time to time during the summer of 1885. At this time there suddenly appeared ptosis, on the left side. This recovered under potass. iodid., but returned upon the left side, and subsequently changed from time to time. In July, 1886, after a very severe attack of migraine the patient suddenly noticed a weakness of both hands. In August there appeared a slight weakness of both legs, together with dyspnœa upon quick motions, and difficulty of deglutition and of speech. There was no hyperæsthesia or paræsthesia. Vegetative functions normal. Upon the 16th August, 1886, when Eisenlober first saw the patient, he found an incomplete ptosis on both sides, but somewhat more marked upon the left. Reaction of the pupils to light prompt. Accommodation normal. Both globes nearly motionless, but the left turned somewhat outward. No diplopia. Both lids could be closed, but it required a little effort. There was slight paresis of the facialis, especially for voluntary movements. The tongue was protruded straight, but with slight vibrations to the right side. Deglutition difficult. Weakness of various muscles of the hands and legs. Knee-jerk present. Triceps and forearm reflex felt on both sides. Sensibility remained everywhere.

A diagnosis was made of a chronic degeneration of nerve cells in the oculo-motor nuclei, together with the deeper motor nuclei of the bulb, and the anterior gray horns of the cord.

The autopsy was made twenty-four hours after death. The oculo-motor, abducens, trochlearis, and also the branches of the facialis were a clean white, and of normal size. The medulla oblongata, the pons, the region of the nuclei, of the eye muscles, were stained with carmine and Weigert's solution, sections made and examined with an entirely negative result.

[3] Neurol. Centralblatt, 1887, Nos. 15, 16.

MIGRAINE FOLLOWED BY TEMPORARY PARALYSIS OF THE THIRD NERVE.

Suckling[4] reports a cure of paralysis of the third nerve, following attacks of migraine. The patient was a youth, aged 18. Since infancy the patient has been subject to severe headaches, occurring at varying intervals. During the last four years the attacks had occurred more frequently, and had been more severe, and for the past two years he has had an attack pretty regularly every fortnight. An aunt of the patient suffered from severe periodical headaches, but neither of his parents suffered from any neurosis whatever. An attack lasted two days, and took the following course: He first felt a slight pain above the left brow, which gradually increased in intensity, and was followed by a flow of saliva into the mouth, and he felt cold; the pain increased gradually, and attained its maximum in twenty-four hours; it then gradually subsided, and ended completely in another twenty-four hours; the pain remained localized over the left brow; he did not vomit, and there were no ocular spectra or paræsthesiæ of any kind; after an attack the scalp was tender.

The left eyelid was first noticed to droop after an attack in infancy, and this has occurred very

[4] Brain, July, 1887.

frequently since. Three years ago, after a severe attack, the left eye was completely closed, and the eyeball turned outward. The eye was not affected in the milder attacks. The eyelid begins to drop at the end of an attack, when the pain is wearing off. The lid takes twenty-four hours to drop completely, and in another twenty-four hours has completely recovered. The eye is not always turned outward, but it has been on two separate occasions, and then the paralysis lasts longer, not recovering for a week after the attack. The mother attributes the increased severity of late to attendance upon a night school the past two years. On examination a week after an attack, the left pupil was a little larger than the right, and responded normally to light and accommodative efforts. The left palpebral fissure was a little smaller than the right, and the upward movement of the eye was defective, there being diplopia in looking upwards. The patient complains that the sight of the left eye is not as good as the right; but Dr. White reports that the vision is normal, and that when he first saw the boy there was complete paralysis of both the internal and external muscles of the eye which are innervated by the third nerve.

ORTHOPEDIC TREATMENT OF PARALYSIS OF THE OCULAR MUSCLES.

Bull [5] has tried the method proposed by Professor Michel (see these papers April 11, 1876), and reports twenty-one cases, with the results obtained, most of them being palsies of the external rectus, of syphilitic or rheumatic origin. The duration of the paralysis varied from a few days to ten years. Complete cure was effected in eight cases, notable improvement in six others, and in seven the treatment seemed valueless. Most of the recoveries occurred in recent cases, though in some a cure was effected after the complete failure of drugs and electricity to accomplish it.

RECURRENT PARALYSIS OF THE MOTOR-OCULI.

Wadsworth has published a very interesting paper upon recurrent paralysis of the motor-oculi, which appeared in the *Boston Medical and Surgical Journal*, Nov. 24, 1887.

THE CORRECTION OF SQUINT.

Landolt [6] writes that the agents for the correction of squint are atropia, glasses, cessation from work, orthoptic exercises, and operative interference. He never operates without satisfying himself that he has gotten the full effect of non-surgical measures. If the correction is made in a child, while young, without these precautions, divergence may occur later. It is difficult to determine beforehand just how much to do. It is easier to diminish than to increase the effect. Dr. Landolt never operates on two homonymous muscles at once. He rather does a tenotomy of one and an advancement of its antagonist. The remedies for over-effect in operations for convergent squint are stoppage of atropia, removal of stitches from advanced muscle, and use of the other eye. No case should lose its power of convergence or divergence after operation, as without that power binocular vision would be impossible. If divergence persist, advance the tenotomized muscle. This can easily be done on the tenth or twelfth day.

[5] Proceedings of Am. Ophth. Soc., 1887.
[6] Proceedings of Internat. Medical Congress, Am. Jour. Ophthal., Vol. IV, No. 9.

PATHOGENESIS OF PTERYGIUM.

Theobald [7] writes that if the generally accepted theory of the pathogenesis of pterygium that it has its origin in a marginal corneal ulcer were true, pterygium would be found approaching the cornea from every possible direction. It is known, however, such is not the case, but that it is almost always situated directly over the recti muscles, and that in a very large proportion of such cases it is over the rectus internus. He draws attention to the close connection between the vessels of the recti muscles and those of the anterior portion of the conjunctiva, and points out that the determination of blood to these muscles might influence the blood-supply of the overlying conjunctiva, and that this would be the case especially with the recti interni, since they were the largest of the straight muscles, and in close relationship with the conjunctiva, because attached to the sclerotic nearer to the corneal border than any of the others. The muscles, he regarded as the usual cause of pterygium, through the localized hyperæmia of the conjunctiva to which they gave rise.

Clinical Memorandum.

FATAL TONSILLAR HÆMORRHAGE.

BY J. N. HALL, M.D., (HARV.), STERLING, COLORADO.

THEODORE W., about twenty-six years of age, cow-boy. Attacked with quinsy, he says, two weeks ago, and bled severely from the mouth. Does not know origin of the blood, which, he says, amounted to over a quart. Was about twenty miles from a physician, and did not consult the writer until he had bled slightly at several other times. Wishes now, October 30th, to know "what to take to get strong again."

At this time there had been no bleeding for several days, and the left tonsil, although somewhat swollen, was not very troublesome. He was given tincture of the chloride of iron, with fluid extract of ergot. After two days, feeling better, he went away from town to the ranch, forty-one miles distant.

The next day but one, and during the absence of the writer, he returned, reporting three severe hæmorrhages. He was very pale and weak. Dr. C. S. Stone found the origin of the blood to be in the right tonsil, in a cavity left by the evacuation of matter during the attack of quinsy. He applied styptics and no bleeding took place for ten hours. The patient was instructed to press upon the tonsil, in event of bleeding, with the finger. At 10 P. M., and at midnight bleeding occurred, but was checked before arrival of medical aid by the above plan. With the assistance of Dr. Stone, subsulphate of iron was applied to the interior of the cavity. The patient in each hæmorrhage lost, by the writer's estimate, about twenty ounces of blood. He was now pulseless at the wrist, extremities cold, and the heart's action very feeble, 150 per minute.

The left tonsil was now greatly swollen, and a little matter was evacuated with a broad exploring needle. Two days later a decomposing clot, nearly as large as a hen's egg, was coughed from the throat, and the tonsil returned to nearly its natural size.

[7] American Journal of Ophthal., Vol. IV., No. 8.

For eleven days the patient improved, and was considered out of danger, having been on the street daily for a week.

I was called suddenly at 2 P. M., October 16th, to go a distance of one hundred and sixty-five feet, to see a very sick man. The time occupied in going was extremely short, but it proved to be this patient lying on the floor moribund. No blood had been lost on the street, but during the time the writer walked the distance named, the patient had lost blood so rapidly by the mouth and nostrils as to be so far gone that no measures of relief were taken, because considered utterly useless. As the writer entered, a stream of blood as large as could flow, came from the mouth and nostrils, but it stopped shortly. The pulse was perceptible for a few seconds only after arrival.

No post-mortem was obtained. It would seem impossible for death to occur so suddenly from a hæmorrhage from any vessel less than the internal carotid. It was learned after death that the patient had stated a short time before that he felt "something swelling in his throat."

Probably the ulceration weakened the wall of the carotid artery, and the bleeding came from an aneurismal dilatation of the vessel at that point. Such rare cases have been previously reported.[2]

Reports of Societies.

BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

NOVEMBER 28, 1887, the President, DR. O. F. WADSWORTH, in the chair.

DR. J. J. PUTNAM read a paper entitled,

LEAD-POISONING AS A CAUSE OF MUSCULAR INCO-ORDINATION (PSEUDO TABES.)[1]

DR. S. G. WEBBER said that pseudo tabes seemed hardly an appropriate name for this series of cases, and he thought none of them were likely to be mistaken for cases of that disease. In the first two, tendon-reflex was present, and the whole group of symptoms differed from those of tabes. In the third case the whole history was widely different.

They were all remarkably well reported and interesting cases of lead-paralysis, affecting the nerves and possibly the spinal cord, and in the last case the brain. There are cases of lead-paralysis, due probably to neuritis, which might be mistaken for locomotor ataxia, as some to which the reader has referred. In many cases, however, it is by no means certain where the lesion is situated. In the third case reported, the brain was much affected, as shown by the inability of the patient to apply her mind, the loss of memory and the childishness of the mental processes. It is possible that the spinal cord was also affected. That there was not extensive organic lesion is shown by the fact that the patient slowly regained her strength and mental powers. She can now walk with crutches and a short distance without. She is able to read, her memory has improved and there seems to be no reason for doubting a still greater gain will be be obtained.

It is well to bring the subject of lead-poisoning to the attention of the profession at frequent intervals. The symptoms are so multiform and varied, two cases rarely being alike, that unless the physician is constantly on his guard he will make mistakes. The danger from the frequent ingestion of small quantities of certain poisons during a long period of time needs to be emphasized again and again.

DR. C. F. FOLSOM had seen cases of neuritis which he supposed to be due to lead, but not with such symptoms as to lead to difficulty in differential diagnosis between posterior spinal sclerosis and neuritis. His cases, of which he mentioned two, in particular, which simulated what is usually called hysteria more nearly than any forms of organic disease; were clearly of peripheral origin. In other forms of neuritis, however, and in certain cases of locomotor ataxia, he had found the usual symptoms so obscurely marked as for some time to give rise to doubt in diagnosis. He referred especially to cases of posterior spinal sclerosis which, in his experience, had followed soon after syphilis, within five years, in which the usual subjective symptoms had been entirely absent; where the diagnosis could be safely made from the presence of objective indications leaving no room for doubt.

DR. J. H. DENNY remarked that the use of the term "pseudo tabes" was indeed sanctioned by writers of eminence, but that he should have the same disinclination to employ it as to speak of pseudo typhoid or pseudo phthisis. It comprehends, nevertheless, a class of symptoms more or less imperfectly resembling tabes dorsalis, which are usually ascribable to some toxic agency, as lead or alcohol.

In one case that came under the speaker's observation for several years, that of a painter who had recurrent attacks of the symptoms of lead-poisoning, and who was under his care at the city hospital; the symptom of muscular inco-ordination, in the form of ataxic movements of the hands, appeared only during the last attack, and disappeared in a few weeks under treatment.

In another case, that of a woman suffering from lead-poisoning, there was ataxia of the legs, and aphasia ataxia, with the symptoms of paralysis of the extensor muscles of the forearms and legs, and of vertiginous attacks.

In both of these cases there was an absence of the patella tendon reflex. Many of the symptoms of tabes dorsalis appeared in cases of peripheral degenerative neuritis of toxic origin, which the speaker had observed, such as paralysis of the ocular muscles, nystagmus, swaying or inability to stand with closed eyes, sluggishly reacting pupils, simulating the Argyll-Robertson symptom, obscure disturbances of sensation, loss of the patellar reflex, some pain, and sometimes inco-ordination.

One of the cases reported by the reader was associated with a lesion of the central nervous system. Circumscribed minute hæmorrhages into the brain or cord have been found in lead-poisoning, and Vierordt[2] has recently referred to the question as to whether the secondary descending degeneration of the posterior columns of the cord, which might follow, would produce symptoms of tabes. He states his own opin-

[1] See page 596 of the Journal.

[2] Pepper's System of Medicine, Vol. II, p. 383. Gaz. Méd. Paris, 1878, p. 42.

[2] Zur Frage der Bleilähmung. Archiv. für Psychiatrie u. Nvhlk, Bd. x viij, Hft. 1.

ion that lead, in the vast majority of cases, does not affect the cord pathologically, but that when it does so, evidence goes to show that the effect is limited to the anterior gray cornua.

The pathology of these cases is not yet determined, and the hypothesis that the ischæmia resulting from lead-poison may produce functional disturbance of co-ordinating centres, and the phenomena of transitory inco-ordination of muscular movements seems plausible. Westphal,[1] however, has quite lately advanced the opinion that tabes dorsalis may in rare instances have a sudden origin, consecutive to a cerebral lesion succeeded by secondary descending degeneration of the posterior columns, as referred to by Vierordt. The speaker said that as he regarded tabes dorsalis as essentially due to a primary lesion of the posterior columns, and early characterized by marked disturbances of sensation such as is not characteristic of pseudo tabes, he preferred to classify such cases variously as those of lead encephalopathy, secondary degeneration of the posterior columns, toxic spinal paralysis, or toxic peripheral degenerative neuritis, etc., according to the development of the symptoms.

The name, however, is of minor importance, the really important thing being to arrive at a more accurate pathology. The cases reported by the reader with accompanying pathological and histological demonstration are both an interesting and a valuable contribution toward this object.

DR. P. C. KNAPP considered the paper a valuable addition to our knowledge of the still obscure subject of chronic lead-poisoning. He had never had the opportunity of seeing a case of ataxia from lead neuritis although he had once seen a man in Dr. Webber's service at the City Hospital, when he was house-officer there, who had typical lead colic. He was a worker in lead and this was the second attack. Careful examination, however, revealed the absence of the knee-jerk, Argyll-Robertson pupils, and Romberg's symptom, while inquiry brought out the history of "rheumatic" pains. He agreed with Dr. Webber in criticising the term "pseudo tabes" for Dr. Putnam's cases. They did not resemble the pseudo tabes from alcohol, arsenic or diphtheria, for in the latter cases the knee-jerk is absent. In all the cases of multiple neuritis that he had seen, and in the great majority of those reported, the knee-jerk has been absent or diminished. Dr. Putnam's cases were furthermore interesting as showing the existence of marked sensory symptoms. Lead seems to have a propensity for attacking the purely motor fibres, and Tanquerel states that lead-anæsthesia, although it is sometimes seen in lead-paralysis, is a rare affection. Most writers state that as a rule there are no sensory disturbances in lead-paralysis. He agreed with Dr. Folsom in thinking that in many cases of true tabes-dorsalis the early symptoms were not so definite as Dr. Putnam had implied, although he had not been able to note the difference between cases coming on five years, and those coming on ten or fifteen years after syphilis, partly from the difficulty of getting a definite history of syphilis. He had, however, seen many cases where the symptoms were explained only by the discovery of the loss of the knee-jerk, the changes in the pupils, optic atrophy, or Romberg's symptom. One of the last cases of tabes that he had seen, complained only of a localized pain and soreness near one tibia, worse at night. There was no periostitis or admitted history of syphilis, but the patient, a woman, had Argyll-Robertson pupils and no knee-jerk.

DR. W. N. BULLARD referred to the existence of somewhat severe but quite obscure forms of lead-poisoning, and related the history of a hospital case, that even after a careful examination, presented apparently nothing but great debility. The patient, a man of thirty-five, had no history of either syphilis or alcohol. The eyes were examined with negative results. The urine contained much lead and as the weakness was great, the man was admitted into the wards of Dr. Doe, where under treatment for lead, he rapidly recovered strength.

DR. PUTNAM said in conclusion, that he did not care in the least to defend the name of pseudo tabes, and had used it simply for convenience sake. At the same time, he thought that its use was justifiable at present, on the ground that while this class of cases is still unfamiliar, the name helps to fix some of their important peculiarities in the mind of the profession.

He recognized that some of the cases described could not be mistaken for true locomotor ataxia, but said that they were, nevertheless, closely related to other cases which might be so mistaken.

FOREIGN BODY IN WHARTON'S DUCT.

DR. A. T. CABOT showed a piece of brown straw, one inch and one line in length, and as large as a No. 5 needle, which had lodged for six months in Wharton's duct.

The patient, a young man, lost a piece of straw under his tongue on the 14th of May, 1887. For three or four weeks he experienced no trouble from it. Then a somewhat painful swelling of the submaxillary gland upon that side occurred.

When seen in August, the submaxillary gland contained a hard swelling about the size of a robin's egg, and in the line of the duct, about one inch from its orifice was a little hard swelling as large as an apple seed. Pressure along the duct caused the issue of a drop or two of pus. The bit of straw being supposed to be very small and evidently lodged far back towards the gland, a cutting operation in search of it seemed unadvisable, and the patient was advised to press occasionally over the gland, and then along the duct so as to force the pus and secretion out, in the hope of working the straw out along with it.

This milking the gland and duct was followed by a decided increase of pain and swelling, but it was continued at intervals until October 1. At this time a little abscess formed over the duct, and was punctured by the patient. A few drops of pus appeared. On November 15th the patient found that when he gaped and raised his tongue, the duct was so shortened that the tip of the straw appeared at the orifice. After some trouble he succeeded in seizing the end with a fine pair of scissors and withdrew the straw.

Poulet, in his exhaustive work on "Foreign Bodies in Surgery," has succeeded in finding but six authenticated cases of foreign bodies in Wharton's duct. In one of these the foreign body was, as in our case, a bit of straw introduced while picking the teeth. A very severe inflammation followed in the case reported by Poulet, and, abscesses forming, the straw, which was

[1] Ibid. Bd. xvii., H. 2.

two-thirds of an inch in length, was finally discharged spontaneously in two pieces.

A careful search in this case at the time of opening the abscesses failed to find the straw.

In answer to a question by Dr. Hooper, Dr. Cabot said that if he had suspected the size of the straw, he should have made an incision of the duct and should have hoped to find it. The evidence at the time he saw the patient, however, was that the bit of straw was extremely small and far back towards the gland where the chances of finding it were but slight. As the patient was suffering no pain, it seemed better therefore to wait and try to work the straw forward to where it could be easily reached. That it was worked forward by the manipulation practised seemed probable by the result.

THE NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, December 1, 1887.

The President, DR. A. JACOBI, announced that the

COMMITTEE ON CONFERENCE WITH THE CITY BOARD OF HEALTH

which he had been requested by the Academy to appoint, in accordance with the suggestion of Dr. Bryant, would consist of the following gentlemen: Drs. C. R. Agnew, R. H. Derby, Stephen Smith, E. G. Janeway, and A. Jacobi.

DR. J. W. STICKLER, of Orange, New Jersey, read a paper on

FOOT AND MOUTH DISEASE AS IT AFFECTS MAN AND ANIMALS, AND ITS RELATIONS TO HUMAN SCARLATINA AS A PROPHYLACTIC.

Having thanked the President for the opportunity of appearing before the Academy, he said that he had two reasons in presenting the paper, the first being that it gave the results of investigations which he had been carrying on for the last four years, and the second, that it pointed out the way in which such results might, perhaps, be turned to practical account. It had long been known that foot and mouth disease may be communicated to the human subject in either of the two ways: *first*, through the agency of milk from affected animals, and, *second*, by the accidental introduction of virus into open wounds. Having referred to the general symptoms of the disease in animals, he mentioned the characteristics which it presented in man, stating that among these were glandular enlargements, vesicles in the mouth and upon the hands and feet, and in some cases, a scarlatinal eruption on different parts of the body. This was the case of Hertwig, and others who purposely contracted the disease by drinking milk from infected animals.

Dr. Stickler then gave some accounts of the sudden and severe epidemic of sore throat which occurred in Dover, England, in 1884, and attacked the inmates of the best houses in the place; and said that it was conclusively proved that the outbreak originated from milk obtained from cows suffering with foot and mouth disease. In the majority of cases the two principal symptoms were inflammatory sore throat and enlarged cervical glands, while in many instances vesicles were also noted. The sequelæ in general resembled those of scarlet fever. An investigation of 182 of the cases, made two years after the outbreak, showed the following points:

(1) None of the patients had since had scarlatina.

(2) Numbers of families who have previously had scarlatina as a rule escaped the epidemic, while those who had not had scarlatina were generally attacked.

(3) Sixteen of the patients have already had scarlatina.

(4) Four of the these were very mild cases.

(5) Two of these had had scarlatina when they were very young.

(6) In ten cases it was doubtful whether the patients had had scarlatina or not.

He then related the histories of three cases in which he inoculated children with virus from milch cows and subsequently exposed them to the contagion of scarlet fever. The first was a child eight years of age who, after it had entirely recovered from the effects of the inoculation, was taken to the bed-side of a scarlet-fever patient, and made to inhale the breath of the latter and place its head upon the pillow used by him. Yet, notwithstanding this exposure, the child did not develop scarlet fever. The second was a child four years of age, in whom the inoculation produced much greater constitutional disturbance, than in the previous instance. The throat and mouth became sore, the temperature went up to 103°, and there was a scarlatinal eruption, followed by desquamation of the cuticle. The child was afterwards directly exposed to the infection of scarlet fever in the same way, and did not contract the disease. The third child inoculated was a boy ten years old, and although during the three years since the inoculation was made, abundant opportunities for infection had been met with by him, up to the present time he had escaped scarlet fever. Dr. Stickler said that he was well aware, however, that at this stage of the investigation now being made no positive conclusions in regard to the prophylaxis of scarlatina could be arrived at.

While foot and mouth disease was essentially the same in man as in animals, there were seme points of difference, and he now proceeded to describe in detail the symptoms met with in the latter. There were four marked stages in its clinical history in animals, viz.: (1) fever; (2) eruption; (3) desiccation, and (4) desquamation. In milch cows the flow of milk became nearly suppressed, while the milk was of a yellow color and readily coagulated on boiling or when exposed to even a moderate degree of heat. There were vesicles in the mouth and throat, and unhealthy ulcers and erosions were sometimes left. Thomas had stated that scarlet fever was the only disease in which the mucous membrane could be torn away in considerable pieces, but he was not probably aware that this was also the case in foot and mouth disease. Repeated attacks of the affection in the same subject were supposed to be rare; but authorities differed very greatly in regard to this point.

Klein, he went on to say, had discussed what he believed to be the germ of foot and mouth disease, and stated that it could not be distinguished from the germ met with in the disease, caused by milk, which occurred at Hendon, and was unquestionably scarlatina. In order to test the transmissibility of scarlet fever from man to the lower animals, Dr. Stickler inoculated two colts by injecting virus into the jugular vein and also giving them saliva and mucus from the mouth and throats of scarlet-fever patients, to swal-

low. In one colt the temperature went up to 103°, and in both there were sore throat, redness of the mucous membrane, cough and difficulty of deglutition. In one of the cases there also resulted desquamation. Having repeated these experiments in a large number of other animals, he was convinced that it was possible to inoculate the lower animals with scarlatina.

In inoculating human beings with virus from animals thus treated, the lesion was found to be a mild one, and he believed that this virus could be used in such a way as to prevent scarlet fever, subsequently, four years ago he had inoculated twelve cases in this way with good results. Out of thirteen other children inoculated, who were already exposed to the infection of scarlet fever at the time, five escaped the disease entirely; while eight were attacked with it. None of these cases, however, were severe, and the question arose whether the severity of the disease had not been mitigated by the inoculation. During the last year he had inoculated two children. In conclusion, he said, that while it was by no means proven that scarlatina could be prevented by such inoculations, the results thus far obtained were very suggestive, and he hoped to pursue still further the investigations in which he was engaged.

DISCUSSION.

DR. ANDREW H. SMITH said that the author of the paper had certainly made out a very excellent case for the efficacy of inoculations against scarlet fever. He would like to inquire whether it was an easy matter to procure virus, so that the supply could be kept up in case the method came into general requisition.

DR. STICKLER replied that the foot and mouth disease was extremely common in Europe. In this country, however, it was very rare. There had been an attack of it in Maine two years ago, and he had also been told that it had occurred in the West. The disease which affected the cows at Hendon was not so frequent. This he believed to have been genuine scarlet fever, and he thought there would never be any difficulty in inoculating milch cows with scarlatinal virus derived from the human subject.

DR. SMITH said that he feared that if virus derived from cows inoculated in the manner suggested by Dr. Stickler were employed, the children thus treated would be subject to all the dangers of the unmodified disease, as was the case in small-pox, when the latter was transmitted from person to person by inoculation.

DR. FINLAY, a veterinary, said that he had seen a great deal of foot and mouth disease in Scotland. It was regarded as an epizootic aphtha, and one attack of it conferred no immunity whatever from subsequent attacks, as he had known cattle to suffer again from the disease within six months after having had it, and it was exceedingly common for the same animals to have it more than once. In the case of sheep, however, it really seemed that one attack was protection against subsequent ones, and he did not remember ever to have seen a recurrence of the disease in the ovine tribe.

A physician who was the medical attendant of one of the children inoculated by Dr. Stickler said that he had never seen a case of scarlatina more marked than that following the inoculation. The child was perfectly healthy at the time the inoculation was made. There was at first a slight blush around the seat of inoculation, and when this subsided the patient was entirely well. Then followed a distinct attack of scarlatina, the temperature running up to 102½° or 103°, and the eruption becoming general. On the sixth day desquamation commenced. So far as he was aware the child had not been exposed to scarlatina in the ordinary way, although the disease was more or less prevalent in the school district in which it lived, and it was possible that it might have been so exposed. The point of interest was that the case presented all the characteristic signs of true scarlatina.

PROFESSOR LAW, of Cornell University, said that as regards the prophylactic form of foot and mouth disease against scarlet fever in the human subject he had to confess that he was still a skeptic. In Great Britain there were frequent outbreaks of the disease, which affected not only the cattle but the people coming in contact with them, and he thought that if foot and mouth disease prevented scarlatina, the latter ought to be a much less common disease there than in this country, where epizootic aphtha was almost unknown. Such was not the case, however, as the statistics show that during the last five years no less than ninety thousand deaths in Great Britain had been due to scarlatina. Then, again, an attack of foot and mouth disease conferred a very limited, if any, immunity from subsequent attacks, and, like Dr. Finlay, he had known it to recur within six months in the same animal. Recurrence of the disease was very common in his experience, and he would, therefore, hardly suppose that inoculation with it would confer immunity from scarlatina for any length of time, if at all. While it was a very contagious disease when there was direct exposure to it, he believed that it differed from scarlatina as to its contagiousness under other circumstances. His own personal experience also tended to throw doubt upon Dr. Stickler's hypothesis. While he had been over and over again exposed to any amount of morbid products from cases of foot and mouth disease, he had never suffered from the affection, but the very first time that he was exposed to the infection of scarlatina he contracted that; his system being susceptible to the one, but not to the other. These points, therefore, seemed to militate against the protectiveness of one disease against the other. Still, it did not follow that the immunity conferred by foot and mouth disease might not be more extended in a race less susceptible to its influence than the bovine.

As regards foot and mouth disease he would strongly urge that the investigation into its prophylactic power should be carried on on the other side of the Atlantic, as it would be a very serious matter if that affection should be introduced in this way among American cattle, and he had no doubt that there would be a general outcry among the cattlemen if it were known that experiments were being made with the virus of the disease in this country.

Again, if we employed the virus of scarlatina for making inoculations, did we not more widely disseminate the disease? While he had great respect for the ability and achievements of Pasteur, he could not but believe that he had increased the spread of anthrax by scattering broadcast his modified anthrax virus, for he was convinced that a weakened virus might, under certain conditions, be rendered potent and dangerous. In the same way he feared that rabies would only be increased by the dissemination of his attenuated virus of that disease, and he believed

it to be a fact that there had been more rabies among dogs in England since the discovery of Pasteur than ever before. These considerations, in his opinion, condemned the method, and he thought that the living germ of the same disease ought never to be used for inoculations on account of the danger of spreading the affection involved.

Dr. McLean, a veterinary, said that he did not doubt that the Hendon epidemic was one of true scarlatina, but he thought it had by no means been proven that the scarlatina came from the cows. He denied that there was such a disease as bovine scarlatina, except, possibly, in cases where the disease was transmitted directly from the human subject by inoculation. In the Hendon outbreak the disease might have been conveyed by the milk, but if this was the case it did not come originally from the cows. The milk was no doubt contaminated from other sources, as had frequently been noticed in epidemics of typhoid fever and other affections, and it was well known how excellent a medium milk was for the conveyance of infectious diseases.

Again, he did not think it susceptible of proof that foot and mouth diseases was prophylactic of scarlatina, as he believed this to be a specific disease, the germ of which was capable of giving rise to epizootic aphtha, and to nothing else. So far as he was aware there had been but two outbreaks of foot and mouth disease in this country, one in Maine and the other in the vicinity of New York city, extending up the Hudson as far as Poughkeepsie.

Dr. John C. Peters said that a great many of the most eminent veterinary authorities believed in the occurrence of scarlatina in horses and cattle.

Professor Law said that veterinarians had unfortunately given the name scarlatina to an affection in which there was redness of the mouth, but which was non-contagious and totally distinct in character from true scarlet fever. The name had consequently given rise to much confusion.

Dr. J. Lewis Smith said: Since the time of Jenner the hope has been awakened that some of the other fatal infectious diseases, and especially scarlet fever, might be prevented as small-pox has been, by the substitution of a milder and modified disease, derived from the lower animals. As regards scarlet fever two propositions of great interest and importance have arisen: First, is there a disease in the bovine race which is a true scarlet fever, or which communicates genuine scarlet fever to man, and secondly, if there be such a disease, does it produce a mild and modified form of scarlet fever in man.

Many instances have been recorded in the last five or six years, in which epidemics of scarlet fever have arisen from the use of milk furnished by healthy cows and infected with the scarlatinous germ after the milking, but in the St. Marylebone and Hendon epidemic, occurring two years ago and described in the *British Medical Journal*, May 20, 1886, the outbreak of scarlet fever appeared to be clearly traced to diseased cows. Now the point to which I wish to call attention is this. The sickness of the cows was mild, not appreciably impairing their appetite, nor diminishing their milk, but the disease which the use of the infected milk produced is described as an "intense outbreak of scarlet fever." Instead of a mild disease being propagated from the cow, for which we are looking and hoping, the reverse occurred. A mild form of the disease in the cow produced a severe one in man, so that it appears from the history of this epidemic that by inoculating with the bovine scarlatinous virus, we might produce severe and fatal epidemics, instead of a mild and modified form of the disease.

Dr. Stickler, in closing the discussion, said that if he produced only a slight and harmless attack of scarlatina by his inoculations he could see no objection to the use of the scarlatinal virus for this purpose. and when the terrible effects of the unmodified disease were taken into consideration, he thought it of extreme importance that a method of protection should be secured, if possible. As to the disease from which the Hendon cows suffered, it had, he thought, been clearly demonstrated that it was nothing else than scarlatina, since it was precisely the same affection as was ordinarily produced in cows by the inoculation of scarlatinal virus from the human subject.

Recent Literature.

Transactions of the Association of American Physicians. Second Session. Held at Washington, D. C., June 2d and 3d, 1887. Philadelphia: Printed for the Association. 1887.

The second volume of the transactions of this Association is issued with commendable promptness and in a most attractive typographical dress. It contains two hundred and fifty pages. The articles, seventeen in number, comprise: Hepatic Cirrhosis in Children, by Professor R. H. Howard, of Montreal; Direct Functional Murmurs and Obstructive Safety-valve Action in the Heart, by Dr. John Guiteras, of Charleston, S. C.; Pneumatic Differentiation, by Dr. H. A. Johnson, of Chicago; Methods of Research in Medical Literature, by Dr. John S. Billings, U. S. A. Two papers on Antipyretics in Fever, by Drs. H. C. Wood and Francis Minot; Sewer-gas Poisoning, by Dr. Henry Hun, of Albany; Aneurism of the Abdominal Aorta, by Dr. Israel T. Dana, of Portland. Two papers on Hæmorrhagic Infarction, by Dr. Wm. H. Welch, of Baltimore, and Wm. Osler, of Philadelphia; Atrophy of the Gastric Tubules, by Dr. F. P. Kinnicutt, of New York; a third contribution to the study of Localized Cerebral Lesions, by Dr. E. C. Seguin, of New York; Forms of Typhoid Fever simulating Remittent Malarial Fever, by Dr. I. E. Atkinson, of Baltimore; The Frequency with which Lead is found in the Urine, by Dr. J. J. Putnam, of Boston; the "Bergeon" Treatment of Pulmonary Diseases is discussed by three writers: Drs. E. T. Bruen, F. C. Shattuck, and Wm. Pepper, none of whom found any considerable advantage to have been derived from the gaseous injections.

The readers of the Journal have already been given some half-a-dozen of these papers in full, and from their quality may fairly judge of the standard of the contributions of this young and vigorous Association.

— A London druggist has hit the popular taste for good bargains. In his window he displays a card that reads: "Come in and get twelve emetics for one shilling."—*Texas Siftings.*

THE BOSTON

Medical and Surgical Journal.

THURSDAY, DECEMBER 22, 1887.

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STOGDALE *vs.* BAKER.

FOUR times in as many years Mrs. Annie Stogdale has come into court with her faithful legal advisor and has related to the twelve men on the jury and to such other men as chose to listen, the story of her alleged wrongs at the hands of Dr. W. H. Baker, and has asked that he be compelled to pay to her the sum of ten thousand dollars as a placebo for gynæcological malpractice and its consequences; telling her auditors with unaffected plainness all about the manner in which she was drugged and abused and made to lose her ovaries under false pretences at the Boston Free Hospital for Women, and forced to go through life unsexed, and with an unsightly hernia at the cicatrix of the opening through which the rape of her sexual glands was accomplished. Four times has she sat by with ingenuous unconcern while, for the defence, the jury was enlightened concerning the mysteries of her pelvic anatomy, physiology and pathology, in all their details. Four times has she, under oath, denied her own signature upon a document prepared before the operation for the removal of her ovaries, and giving her full and free consent to that procedure. Four times has her singular compound of facts, fancies, and falsehoods been met and controverted by clear evidence, and her counsel's theory of the medical aspects of the operation itself and its needlessness has been exploded by able expert testimony. And now, at the end of the fourth wearisome trial, a jury has agreed in deciding a question upon which its three predecessors declared their inability to agree, and has formally rendered its verdict that Dr. Baker is wholly free from the blame imputed to him by this misguided woman and the erratic people who, under the impulse of a misdirected philanthropy have given her their money and their sympathy.

The JOURNAL extends its congratulations to the defendant in this case that he has at length secured this personal vindication. We congratulate and thank him in a larger sense that, loyal to his profession, conscious of his rectitude, tenacious of his rights, he resisted all inducements to compromise the affair by settlement, and met the issue squarely and fearlessly as often as his persistent adversary, longing for lucre, chose to raise it.

This example of endurance to the end should not be forgotten or unheeded by the medical profession. The settlement of suits for malpractice by the payment of money to avoid a trial is relatively economical, and is attended with the least degree of vexation and anxiety; but it is precisely the issue which unscrupulous lawyers, representing impecunious claimants, hail with satisfaction, and the direct tendency of such a course is to make the terms of the settlement increasingly exacting and more and more of the nature of blackmail. Therefore, when a defendant in a suit like the present one carries his case through to a verdict by a jury and wins his cause, he does much more than any other method can accomplish to discourage shyster lawyers and unprincipled claimants from bringing fraudulent suits.

One feature of this trial deserves special mention. Before entering upon the examination of witnesses the counsel for the defence moved, and the court granted the motion, that the plaintiff should file a bond, with proper securities, for the payment of all the costs of the suit, in the four trials, if in this trial the jury rendered a verdict for the defendant.

This proceeding is very unusual in the courts of Massachusetts; but it is plainly a very just and commendable one. We wish it might become a rule of universal application in actions of tort. It would be a distinct and effectual hindrance to unjust suits which are little else than blackmail in their motive. To the objection that poor but deserving plaintiffs would thus be placed under a serious if not controlling disadvantage, the answer is that if the counsel really believe in the justice and soundness of their client's cause, and are willing to assume the risk of a trial in other than a spirit of speculation, they can find at any time an easy way to meet this preliminary obstacle, and the discretion of the court may safely be trusted in fixing the conditions of the bond with equity.

Another thought is suggested by this remarkable series of trials. Ought not medical men to combine to protect themselves from the ever-impending risk of actions for malpractice, and to defend themselves successfully when such actions are brought? These litigations are expensive to the defendants in time, money and anxiety, and there are few who are disposed or can afford to engage in defending a suit if an easy and honorable way of avoiding it is afforded. But in unison there is strength; and if surgeons, obstetricians and all other medical men who love their profession, and recognize its true relation to the law, would join in a mutual association for medical defence, pledging themselves to pay assessments for the legitimate expenses of the best possible defence of any of their number unjustly charged with malpractice, we should hear less of trial by jury with physicians as

defendants. Such an association, by its very existence, would deter lawyers from bringing shaky suits into court, and it might become a power in securing legislation to the same end.

THE NERVE-REST CURE.

Under this head, James Muir Howe, in the last *Nineteenth Century*, discusses the Weir Mitchell treatment of nervous diseases.

Nervous subjects, says this writer, are generally regarded by doctors as most unsatisfactory patients. No sooner do they find such an one than they order him off to the mountains, or over the seas, anywhere to get rid of the trouble of treating him. Some affect to believe that nervous subjects feign their ailments for the purpose of attracting attention and sympathy. It is quite true, says Mr. Howe, that they frequently exaggerate their sufferings, but that is no reason for denying their existence. Nervous irritability is described as insanity of the nerves, and it is certainly quite as deserving of recognition and treatment as insanity of the brain. He whose brain is insane is generally oblivious of the opinion of his fellows, while he of insane nerves is usually acutely conscious of want of sympathy on the part of his friends. A harsh word or an unfriendly glance will worry him as much as a heavy loss. Indeed, many such sufferers are driven to drunkenness through dread of the daily annoyances of daily life.

The writer gives several instances in which strong mental control on the part of the patient has put a stop to perverted functional nervous action. Of these, we give one: A young lady in other respects healthy, had gastric nerves so wayward that they would allow only a very small amount of food to remain on the stomach. This condition produced both debility and inconvenience. Her physician told her that she might, by a strong mental effort free herself from the ailment. She tried her best, but failed. It became apparent that she did not possess sufficient will-power for the task. The physician decided to assist the will by inducing a strong emotion with respect to the ailment, and this he effected in the following manner: Going to the future husband of the lady he urged him to inform her that their union could not take place until she was cured. The time fixed for the marriage was near at hand, and the shock of such news had an immediately beneficial effect. The gastric nerves began to resume their normal functions from the moment of that interview.

Cases in which such treatment is beneficial are very rare. Even when successful in abolishing the ailment, it may prove highly injurious to the patient, who thus strains one set of nerves to control another, for if the higher nerves are not much stronger than the lower, general nervous prostration will ultimately supervene. Many local nerve affections carry off irritation from the nerve centres, just as an attack of gout in the great toe frequently relieves an irritable brain. It is therefore dangerous to suppress a local symptom without previously removing any existing central disease. In the case just related, the central nervous system was healthy, consequently no harm resulted from suppressing the local symptoms.

Mr. Howe comes to the rational conclusion that the safest way to cure the majority of nervous affections, is by means of nerve-rest to reduce the general nervous excitability of the patient. It is highly injudicious to urge a nervously exhausted person to exertion before he has had rest sufficient to enable him to lay up a fresh store of nervous energy. Under the forcing system, one patient walked herself almost into a lunatic asylum to ward off a threatened attack of hysterical paralysis. This is an instance of the lower nerves being controlled by the higher to the detriment of the latter. It was ultimately decided to prohibit walking in this case, the power of reason being considered of more importance than that of locomotion.

The writer further dilates on the great advantage which has accrued to the therapeutics of nerve maladies by the systematic rest inaugurated by Dr. Weir Mitchell. Nerve reparation gradually but surely follows. The muscles by frequent passive exercise with massage and electricity, are braced up and kept from wasting, and thus are able to respond to the call of the renewed nerves.

Moreover, the passive exercises to which these patients are subjected, promotes general nutrition and enables the patients to tolerate the persistent overfeeding, which is a part of the treatment. The amount of exercise undergone in massage equals a walk of several miles daily, so that there is more appetite in two hours, than there used to be after a whole day's fast.

The treatment indicated is in a measure applicable to the minor degrees of nervous exhaustion. For one who cannot get a sufficient holiday, the best substitute is an occasional day in bed. Many whose nerves are constantly strained in their daily vocation, have found this out for themselves. A Spanish merchant in Barcelona told the writer of the review article that he always went to bed for two or three days whenever he could be spared from his business, and he laughed at those who spent their holidays on toilsome mountains. If we cannot avoid frequent agitation, we ought, says Mr. Howe, to give the nervous system time to recover itself between the shocks. "Even an hour's seclusion after a good lunch, will deprive a hurried, anxious day of much of its injury. The nerves can often be overcome by stratagem when they refuse to be controlled by strength of will."

FREQUENCY OF TWIN AND TRIPLET BIRTHS.

Medical statistics, have a certain value, either as pertaining to the beginning, the duration, or the close of life. It does not follow that, because a city or a country practitioner has met two or three cases of trichinosis, or of fracture of the os calcis, or any other

rare disease or surgical lesion, upon a single street, within the same week, the same event will occur to him on the following week. One or two deaths only from the first mentioned cause have occurred in Massachusetts in the past twenty years.

The probable error in computation from small, is vastly greater than that from large numbers. The obstetrician occasionally writes to know the ratio of twin or triplet births to 1,000, 10,000, or more labors. Other things being equal, such as race, climate, character of population, etc, the variation between any two series of one thousand labors, will usually be greater than the variation between two series of ten thousand labors.

We have in the Massachusetts Registration Reports, an opportunity to study the ratio in one million births. In the twenty-five years ending with 1886, there were registered in Massachusetts, 1,016,278 births. There were also registered in the same time 9,028 pairs of twins, and 109 cases of triplets. This gives a ratio of one case of twins in every 113 labors, and one case of triplets in 9324 labors. So that the common statement that one case of twins occurs in 100 labors, and one of triplets in each 10,000 labors is not far from correct.

In the period named, the greatest frequency of twins in any year was in 1865, when there was one case registered in 96 births, and the least frequency was in 1885 when there was one case of twins in 130 births. In 1881 there were registered nine cases of triplets, or one in 5024 births and in 1879, but one case in 40,205 births.

As an instance of marked departure from the above, and also an illustration of the error in dealing with small numbers, two cases of triplets occurred in the writer's practice in a series of less than 300 labors.

ANNUAL REPORT OF THE MARINE HOSPITAL SERVICE.

THE report of the supervising Surgeon-General of the Marine Hospital Service shows that the number of sick and disabled seamen to whom relief has been furnished during the past year is greater than any preceding year since the organization of the service. The chief part of the report proper is occupied with material relating to quarantine, the yellow fever epidemic at Key West, and kindred matters. The appended tables are numerous and full. Among them is a statement of the mortality of passengers on voyages from foreign ports to the United States for the year preceding June 30, 1887.

A large number of pages are devoted to selected cases from hospital practice, and records of autopsies. The cases show a very large amount of surgery done during the year. The radical cure of hernia is given considerable prominence in the service evidently. The table of operations shows that eleven cases were operated upon, with one death. Six of these cases are given at length, but the fatal case is not among them.

THE DISCUSSION ON THE CANCER BACILLUS BEFORE THE BERLIN MEDICAL SOCIETY.

THE scientific men at the Society of Internal Medicine of Berlin, Session 28th of November, who discussed Scheurlen's claims to the finding of the cancer bacillus, with one exception, were not disposed to make much account of Scheurlen's alleged discovery. Fraenkel thought Scheurlen's culture methods defective. It is a little singular that the bacillus which the latter thinks to be the *vera causa*, should proliferate so rapidly in the culture media, and in almost all nutrient media, while in tumors it multiplies so slowly; for cancerous growths are notoriously of slow development. It is, remarked Fraenkel, a matter of experience that a bacillus which multiplies with rapidity in most culture media, also multiplies equally fast when it is of pathogenic nature. But this, as before said, does not agree with the slow development of cancer.

Moreover, from all that we know of the action of the pathogenic schizomycetes we never find them giving rise to epithelial products. The bacilli develop only in the blood or in the connective tissue where there are blood vessels and lymphatics; and when they provoke processes of proliferation as, for example, in cases of tuberculosis, lepra and syphilis, we always witness the development of typical products, as the granlomata of Virchow, but we never observe an epithelial proliferation.

Fraenkel thought that Scheurlen had not taken sufficient pains to exclude the possibility of a variety of bacteria in the case given with which he originated his cultures. This can only be done by a process like Koch's "fractional" method, which would require first diluting with water or liquified gelatine the cancer juice, then "sowing" it in a suitable medium, and on glass slides from which the air is excluded, watching the development of spores. In this way pure cultivations might be obtained, and it could easily be perceived whether there were present several distinct species or only one. Fraenkel was disposed to admit that carcinomata belonging, as they do, to tumors that are the subjects of rapid degeneration, either caseous or fatty, are likely to be the prey of numerous kinds of schizomycetes, which penetrate them from the exterior. In other words, secondary infections might easily occur. He believed cancer to be an infectious disease, but was not clear that it was of bacillary origin.

At the same meeting, Guttmann expressed his satisfaction with the results obtained by Scheurlen, and read a letter from Dr. Schill, of Dresden, in which the latter, who has been for the past five years seeking for the microbe of cancer, states that he has discovered a bacillus resembling that described by Dr. Scheurlen.

MEDICAL NOTES.

— The Emperor of Brazil has had glycosuria for five or six years, and the symptoms have lately become worse.

— Press reports from Selma, Ala., state that a horrible murder was committed there on December 18th by W. W. Jordan, a crazy faith-doctor. He had been living in Selma for the past twelve months, and had in that time acquired great influence over the negroes, whom he told that he had come to redeem the Jews. He arranged for a passover-feast at the house of two negro women on the outskirts of the city, and told them that a sacrifice was necessary. One said that she was willing to offer herself, and laid her head on the table. Jordan thereupon took a sword and struck her several blows on the neck and stabbed her a number of times, killing her instantly. The body was then dragged out into the street by the two other women.

— The Medical Society of the County of Kings, New York, has authorized the publication of a monthly medical journal, to be known as the *Brooklyn Medical Journal*, to contain the transactions of each meeting, together with the papers read, and the discussions thereon. It is to be edited by five members of the society, appointed by and under the control of the council. It is expected that it will contain the transactions and papers of the Pathological, the Surgical, the Medical, Microscopical, the Pharmaceutical, and the Dental Societies.

BOSTON.

— The Boston Cremation Society has failed to raise the capital stock of $25,000 requisite to erect its buildings; only about $7,000 were subscribed, and this sum is to be returned to the subscribers, who are referred to the Massachusetts Society of similar aims.

NEW YORK.

— The Methodist Episcopal Hospital, of Brooklyn, which was formally opened last week, is an imposing structure, consisting of three separate buildings of brick, trimmed with freestone, occupying an elevated site just west of Prospect Park, which covers an entire city block. The grounds are rectangular, extending about seven hundred feet east and west, and two hundred feet north and south, and include more than three acres. The main building and the two pavilions, one on either side of it, are connected only by light corridors on the ground floor. Mr. George I. Seney, the founder of the hospital, has given in all $410,000 towards its erection and equipment, his only stipulation being that the institution should be open to individuals of all creeds alike. In addition to this amount, $70,000 has been raised from other sources; but a considerable sum is still needed to fully complete the buildings, when there will be accommodations for two hundred patients. Among the speakers at the dedication ceremonies was Dr. Horatio C. Wood, of Philadelphia.

— The Board of Estimate and Apportionment have fixed the appropriation for the expenses of the Board of Health for the year 1888 at $394,287.

— In order to get some more effective check upon bad plumbing than at present exists, President Bayles, of the City Board of Health, has secured from the Corporation Counsel an opinion that it lies with the Department of Public Works to refuse a permit to connect with the Croton water mains any building in which the plumbing is condemned as illegal by the Health Board.

— For the Christmas dinners of the inmates of the various institutions under the charge of the Department of Charities and Correction 12,990 pounds of chicken, and 3,445 pounds of turkey will be required. The Insane Asylum on Ward's Island receives the largest amount of poultry of any one institution, on account of its more numerous population, 1,850 pounds of chicken, and 500 pounds of turkey.

Miscellany.

THE CONVERSION OF BENIGN GROWTHS OF THE LARYNX INTO MALIGNANT.

AT the recent Congress of German Naturalists and Physicians, Professor Schnitzler read a paper upon the subject of the "Malignant Degeneration of Benign Growths in the Larynx." He first described, as we learn from the *Lancet*, a case of epithelial carcinoma with secondary growths in the lymphatic glands and pleura, in a patient who some months previously had been operated on for papillomata, the recurrence of which had been treated by cauterization. The patient subsequently came under Professor Schnitzler's care with symptoms of perichondritis, but the carcinomatous nature of the disease was recognized, and the supervention of pleurisy some weeks later was considered to be due to a diffusion of the malignant disease. This diagnosis was confirmed after death, when, besides the laryngeal and pleural carcinoma, there were found necrosis of the thyroid cartilage and gangrene of the right lung. Professor Schnitzler remarked upon the rarity with which benign tumors take on malignant characters, he having seen such conversion only three times among hundreds of cases of laryngeal papillomata. He left undetermined the question whether the operations and frequent cauterizations induced the malignant disease, and said that endo-laryngeal operations upon papillomata should be discountenanced on this ground. He also spoke of the difficulty in the differential diagnosis between benign and malignant growths, as well as between laryngeal syphilis and carcinoma. Dr. Morelli related the case of a man whose larynx was so blocked by papillomatous growths as to necessitate tracheotomy prior to a thyrotomy with complete ablation of the new growth and galvano-cauterization of the laryngeal wound. The patient left apparently cured, but wearing the tube. After the lapse of a year, he returned with evident carcinomatous degeneration of the papilloma, which filled the larynx to the level of the tube, which was partially displaced and blocked by it. This was the only case of the kind that Dr. Morelli could recall within a period of nearly ten years. Dr. Seifert referred to a case published by Böhmer, where papillomata (histologically examined) had been treated by Professor Gerhardt and himself for a year, but which passed into carcinoma, for which the extirpation of the larynx was practised; but the patient did not long survive the operation.

Correspondence.

HEBRA'S CURE FOR DYSPEPSIA.

VIENNA, AUSTRIA, December 5, 1887.

MR. EDITOR,— Not long since I had brought to my knowledge the fact, that Messrs. T. K. Cook & Co., chemists, of New York, are manufacturing and advertising a remedy under the title of "Dr. Hebra's wonderful cure for Dyspepsia."

In justice to myself I wish to say, that in spite of the statement made in their circular, I have never placed the result of any analysis, nor any antidotes against dyspepsia in Messrs. Cook & Co.'s hands. Further, that I have given them no right to use my name and that they are not authorized in any way whatever to sell the remedy under the title used.

The great distance of my residence from New York renders it difficult, if not impossible for me to prosecute Messrs. T. K. Cook & Co. for the misuse of my name, so that I can not do better than to warn the public through your columns against a remedy which has been offered to it in fraudulent guise.

If you will kindly publish this letter you will greatly oblige, Yours very truly, DR. HEBRA.

ANOTHER EPITAPH.

BOSTON, December 17, 1887.

MR. EDITOR,— In your last issue you gave an epitaph of a London dentist. This one, evidently suggested by her physician, a distant relative of mine, found on a gravestone in a cemetery, Surrey County, England, may amuse your readers.

"Here lyes Elizabeth
Betsy Ogden,
1674.
Her lyved no longer
Cos her —— cooden."

Yours truly, WILLIAM M. OGDEN, M.D.

LETTER FROM BERLIN. — SCHEURLEN'S CANCER BACILLUS.

BERLIN, December 4, 1887.

MR. EDITOR, — Those who watched the painful fœtal development, birth and growth of the Bacillus Tuberculosis, and of the Coccus of Erysipelas, will not be surprised that the Bacillus of Cancer is suffering parturition throes quite as tormenting. Every time a new pathogenic germ is heralded, the mass of unlucky bacteriologists, who have no concern in it, rise up to strangle it before fully born. Six years ago the sages of pathology predicted its coming, basing their opinion upon a logical balancing of anomalous instances. Every student who has watched with becoming intelligence the march of science, who has seen the old landmarks of ætiology and pathology levelling themselves and giving place to established facts, who has noticed how one well established discovery led up to another, and how probable the deduction was that anomalous forms of disease might be due to similar causes, will not now be astonished that Scheurlen has announced a new bacillus. Fränkel's arraignment, to those who can read between the lines, amounts to nothing as scientific argument. S. Guttmann and Stabsartz Schill both confirm the results after personal experimentation and investigation. Schill has been for years engaged in the same line of inquiry. Not in one instance nor in two did Scheurlen find these bacilli, but in every case examined by him. Because Koch was not fortunate in finding it, this has no bearing whatever upon the question; neither did he find the coccus of erysipelas, but yet no one to-day doubts Fehleisen's work. If it be true that certain eminent doctors in New York have travestied this matter, as the telegrams of yesterday report, it only lowers them as scientists in the eyes of those competent to judge, and presupposes a snap judgment of a subject which they have never investigated, and concerning which, consequently, they are incompetent to pass an opinion. There is a bacillus of cancer just as really and absolutely as there is one of consumption. Its morphological characteristics are not yet clearly defined, and there are many other doubts to clear up and questions to answer. But all of this can come only after many months of hard and patient labor. It stands exactly upon the same ground that the coccus of erysipelas possessed when announced, and it will possibly go through the same fiery ordeal that all original work must go through before accepted. To be a competent critic there are certain well-recognized prequisites: (1) A man must be thoroughly well trained himself in habits of research, and especially in those lines of inquiry related to the subject in hand. (2) He must come to his work free from any preconceived ideas that would warp his judgment, and free from personal feeling which would belittle his learning.

To those who know the inns and outs of professional feeling in Berlin the fact that the discovery was made in Leyden's clinic and not elsewhere is not without significance. Very truly yours,

HORATIO R. BIGELOW, M.D.

"CŒLEBS," "BENEDICK" AND "GAMBOGE."

CRANBERRY CENTRE, December 19, 1887.

MR. EDITOR,— The letters printed in the last two issues of your highly esteemed weekly, from Cœlebs and Benedick have interested me considerably. They bring up old times again. I knew Gamboge well enough, and recollect perfectly well how he first came to get that instrument Benedick mentioned. It was this way: Along about '54 or '55, there was an old maid from Boston, Mass., came to board for the summer at the Meadows. She was a curious sort of a critter — sort of high-strung, and *called herself* thirty-five and an invalid. I can see her now a teetering along the main street, with a hoop-skirt as big as a hay-stack. The folks where she boarded used to be (*and are still*), patients of mine; so when she began asking about a doctor, they told her "that I was, etc." But she said I lived too far away, and as she often needed medical attendance in a hurry, she couldn't think of depending on a man living four miles off — so Gamboge got the case and a circus it proved. Every morning she was as chipper as a lark, full of talk "about Shakespeare and the musical glasses," as an old aunt of mine used to say, but when Gamboge had got well tucked in for the night, she would yank him out of bed, and when he got there she'd have lost her voice and make signs to him that something had come up from her lower splanchnic cavity and was choking her to death. Of course, if she had been a native, he would very soon have tried what cold water and mist. assafœd. could do toward- making her let his night-bell alone. But the fact was, she sort of topped it over him with her city airs and her talk about Ossian's poems and the Waverley novels, and then again, next morning when he entered his $1.50 on his books (the regular charge to the natives at that time, for a night visit being only 75 cents) he'd feel somewhat consoled for his broken sleep. He dosed her well (always gave *medicine* enough), with valerian, elixir pro., etc., but nothing seemed to hit the case until she explained to him that hers was a case of "reflex nervous trouble of internal origin," and Gamboge felt obliged to buy the speculum which amuses Benedick so much; this, though "old-fashioned" in style now, answered its purpose very well until one fine morning the patient took the early stage for Boston, *forgetting his bill*. The way the doctor swore was terrible.

The "presence of older women" and the "sheet" seems to amuse Benedick very much. The least he has to say on that subject the better, Gamboge with all his faults was an *honorable*, *clean* and *decent* practitioner, and did not feel called upon to carry round a bag full of new-fangled speculums on his daily visits, rattling his nonsensical instruments, nor did he think, as some of the young men now-a-days seem to do, that there is a "pessary" which suits

every case, and that a cotton tampon is needed to cure everything in a woman.

I remember that case published in '46, very well, the hemlock decoction was such a "success" that when I ligated those hæmorrhoids the next spring, they seemed tougher than piles usually are. I never published my part of the case, at least *not in print*.

Now about those two young men who settled at the Meadows last year: Living as I do, four miles off, and having arrived at an age when people are not apt to fly off the handle, I can freely say without (I should hope) being called prejudiced, that I don't approve of either of them. Benedick rides up and down the turnpike as if Satan himself was after him; while Cœlebs sits at his office windows, rolling little paper cigars. "Feathers and Lead" I call them, when I happen to talk about them to folks who like a joke.

Benedick "scores a point," as he calls it, by making that spavined mare for which he gave his note last month, haul him over here to the Centre once or twice a day, (I believe he *does* doctor a black woman who lives over by the mill-pond), while Cœlebs, who has traded his horse for some old books, just keeps his chair down, and thinks the geese will come without dough. Cœlebs seems to feel sure, and Benedick possibly believes, that Mrs. B. is going to be a great help to his practice. *May be.* But I have been in physic over forty years, and I never yet knew a woman alone to make a man. Yours respectfully,

FULLER WORMWOOD, M.D.

[We must beg to decline future correspondence on this subject of the "Doctor's Wife." An exception, however, would be made in favor of Mrs. Benedick, should she see fit to address the JOURNAL. *Place aux dames.* ED.]

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 10, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	669	246	18.00	21.00	1.05	9.60	3.60
Philadelphia [Dec. 3]	993,801	318	93	12.40	13.64	3.41	5.27	1.55
Brooklyn	745,108	—	—	—	—	—	—	—
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	139	57	20.16	10.80	3.60	7.92	—
Boston	400,000	189	61	14.84	16.43	.53	5.29	5.83
New Orleans	242,750	114	31	11.44	9.68	.88	5.28	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	88	25	25.46	12.54	6.84	3.42	—
Pittsburgh	210,000	89	28	23.52	2.24	14.82	4.48	—
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	49	19	22.44	12.24	4.08	10.20	—
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	9	5	22.22	—	—	—	—
Charleston	60,145	42	17	13.28	6.64	6.64	—	—
Portland	40,000	7	1	42.84	14.28	—	28.56	14.28
Worcester	68,383	23	8	17.40	17.40	4.35	4.35	—
Lowell	64,051	21	5	19.04	—	—	19.04	—
Cambridge	59,660	15	7	13.33	26.66	6.66	—	6.66
Fall River	56,863	20	11	15.00	20.00	—	5.00	—
Lynn	45,861	14	5	14.28	14.28	—	14.28	—
Lawrence	38,825	20	8	25.00	10.00	15.00	—	2.00
Springfield	37,577	18	6	11.11	16.66	—	11.11	—
New Bedford	33,393	20	8	30.00	5.00	—	25.00	—
Somerville	29,992	10	3	—	10.00	—	—	—
Salem	28,084	9	2	—	11.11	—	—	—
Holyoke	27,894	—	—	—	—	—	—	—
Chelsea	25,709	12	2	33.33	—	—	8.33	25.00
Taunton	25,674	—	—	—	—	—	—	—
Haverhill	21,795	10	3	20.00	20.00	10.00	—	—
Gloucester	21,713	8	2	—	12.50	—	—	—
Brockton	20,783	8	1	12.50	12.50	—	12.50	—
Newton	19,759	6	4	16.66	—	—	—	16.66
Malden	16,407	5	0	20.00	—	20.00	—	—
Fitchburg	15,375	7	3	14.28	—	—	—	—
Waltham	14,609	4	1	—	—	—	—	—
Newburyport	13,716	13	3	30.76	15.38	—	30.76	—
Northampton	12,896	—	—	—	—	—	—	—

Deaths reported 1,956: under five years of age 665; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 333, acute lung diseases 300, consumption 235, diphtheria and croup, 143, typhoid fever 53, scarlet fever 47, diarrhœal diseases 25, malarial fever 19, puerperal fever 11, cerebro-spinal meningitis 11, erysipelas nine, whooping-cough eight, measles six. From diarrhœal diseases, New York and New Orleans six each, Philadelphia, Boston, District of Columbia and Charleston two each, Baltimore, Pittsburgh, Nashville, Fall River and New Bedford one each. From malarial fever, New York eight, Baltimore four, District of Columbia three, New Orleans two, Nashville and Charleston one each. From puerperal fever, Pittsburgh three, District of Columbia two, New York, Philadelphia Baltimore, New Orleans, Milwaukee and Haverhill one each. From cerebro-spinal meningitis, New York and Milwaukee three each, Worcester two, Philadelphia, Fall River and Lawrence one each. From erysipelas New York four, Philadelphia and Boston two each, District of Columbia one. From whooping-cough, New York three, Baltimore two, Philadelphia, Boston and District of Columbia one each. From measles, Baltimore five, District of Columbia and Fitchburg one each.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending November 26th, the death-rate was 23.5. Deaths reported 4,158: infants under one year of age 936; acute diseases of the respiratory organs (London) 560, scarlet fever 126, whooping-cough 115, measles 92, diphtheria 44, fever 44, diarrhœa 41, small-pox (Sheffield 16, London and Bristol one each) 18.

The death-rates ranged from 13.8 in Leicester to 34.4 in Blackburn. Birmingham 25.0; Bradford 25.1; Brighton 19.8; Hull 19.9; Leeds 21.3; Liverpool 24.9; London 23.0; Manchester 26.4; Nottingham 24.0; Sheffield 23.1; Sunderland 17.7.

In Edinburgh 23.8; Glasgow 24.5; Dublin 33.8.

The meteorological record for the week ending December 10, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Dec. 10, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday,... 4	30.29	40.0	41.0	34.0	87.0	88.0	88.0	87.0	N.	S.E.	S.	10	12	8	O.	O.	O.		
Monday,... 5	30.05	42.0	50.0	36.0	88.0	90.0	82.0	87.0	S.	W.	W.	8	7	12	O.	O.	C.	4	.07
Tuesday,... 6	30.19	37.0	44.0	32.0	76.0	52.0	77.0	68.0	W.	W.	W.	12	13	12	C.	C.	C.		
Wednes,... 7	30.24	36.0	43.0	28.0	79.0	72.0	79.0	77.0	N.W.	S.E.	S.	4	4	6	C.	O.	O.		
Thursday, 8	30.25	40.0	44.0	38.0	81.0	72.0	82.0	78.0	W.	N.E.	N.	7	9	8	O.	F.	F.		
Friday, ... 9	30.53	34.0	37.0	33.0	81.0	72.0	76.0	76.0	N.	E.	S.E.	8	12	11	O.	O.	C.		
Saturday,. 10	30.32	42.0	46.0	31.0	82.0	92.0	96.0	90.0	S.E.	E.	S.E.	3	8	12	O.	O.	R.	6	.04
Mean, the Week.	30.281	38.7	44.0	33.0				80.4										10	.11

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 10, 1887, TO DECEMBER 16, 1887.

STERNBERG, G. M., major and surgeon. Assigned to duty as attending surgeon and examiner of recruits at Baltimore, Md.

CLEARY, P. J. A., major and surgeon. Assigned to duty at Fort Wingate, N. M.

ANDERSON, C. L. G., first lieutenant and assistant surgeon. Assigned to duty at Fort McDowell, Ariz.

TAYLOR, A. W., captain and assistant surgeon. Assigned to duty at Fort Robinson, Neb.

APPEL, A. H., captain and assistant surgeon. Assigned to duty at Camp at Highwood, Ill., relieving assistant surgeon H. O. Perley.

PERLEY, H. O., captain and assistant surgeon. Will rejoin his proper station (Fort Wayne, Mich.) S. O. 285, A. G. O. December 8, 1887.

BANISTER, W. B., first lieutenant and assistant surgeon. Ordered to proceed at once from Fort Lowell, Ariz., to Fort Wingate, N. M., and report to the commanding officer for duty. S. O. 128, Department of the Arizona. December 1, 1887.

CABELL, J. M., first lieutenant and assistant surgeon. Ordered for duty at Fort Niobrara, Neb. S O. 286, A. G. O. December 9, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING DECEMBER 17, 1887.

HUDSON, A., medical inspector. Ordered to the "Trenton."

BATES, N. L., medical inspector. Detached from the "Trenton," and placed on waiting orders.

SOCIETY NOTICES.

NORFOLK DISTRICT MEDICAL SOCIETY. —A meeting for Scientific Improvement will be held at the Hall of the Roxbury City Guards, 67 Warren Street, Roxbury, December 27, 1887, at 7.45 P.M. Communications: I. Asthma and its Treatment by Lobelia, by W. C. B. Fifield, M.D. The discussion will be opened by Dr. H. M. Cutts, with a consideration of other methods of treating asthma. II. Various Influences Affecting Lactation, by A. F. Perry, M.D. The discussion will be opened by Dr. F. W. Vogel. III. Exhibition of Pathological Specimens, by W. P. Bolles, M.D.

S. ALLEN POTTER, M.D., *Secretary.*

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. — The Section for Obstetrics and Gynæcology will meet at 19 Boylston Place, on Wednesday, December 28th, at 7.45 P.M. Business: Election of chairman. Discussion: The Treatment of "Posterior Positions." The discussion will be opened by Dr. C. M. Green and Dr. Edward Reynolds.

GEORGE HAVEN, M.D., *Secretary.*

OBITUARY. ALONZO F. CARR, M.D.

Hon. Alonzo F. Carr, M.D., who died at Goffstown, N. H., December 10th, aged seventy years, was born in Goffstown, and was the son of the late Judge Jesse Carr. He graduated at the Dartmouth Medical College in 1839, and had been in constant practice in his native town ever since. He had served in both branches of the State Legislature. A widow and four sons survive him.

RESOLUTIONS ON THE DEATH OF THE LATE DAVID M. PARKER, M.D.

At the Twentieth Annual Meeting of the American Academy of Dental Science, held in Boston, November 16, 1887, the committee appointed to submit resolutions concerning the death of Dr. David M. Parker, having attended to their duty would report the following:

Resolved, That the American Academy of Dental Science has received with sincere sorrow the intelligence of the decease of our late respected friend and associate, David M. Parker, M.D., of Boston, an Honorary Member and former president of this Society.

Resolved, That by the death of Dr. Parker, the Academy has lost one of its most worthy members, a man of excellent judgment and skill in his profession, and always interested in all movements looking towards the better organization and education of the profession and the advancement of its practice. He was highly esteemed in the community in which he lived, because of his kindly virtues and his earnest, upright and sincere life.

Resolved, That the proceedings of the Academy this day, in honor of our late lamented brother, be engrossed upon the records, and communicated to the widow of the deceased, with the assurance of our deep sympathy in her bereavement. Also, that a copy be transmitted to the *Independent Practitioner*, the *Dental Cosmos*, and the *Boston Medical and Surgical Journal*, for publication.

ELISHA G. TUCKER
JACOB L. WILLIAMS
EDWARD N. HARRIS
} *Committee.*

DEATH.

Died, at Vineyard Haven, Mass., December —, 1887, John Manchester Smith, M.D., M.M.S.S., aged sixty-one years.

BOOKS AND PAMPHLETS RECEIVED.

Roman Fever. By Gregorio Fedeli, M.D., of Rome. Reprint. 1887.

The Treatment of Neuralgia in General Practice. By Gustavus Elliot, A.M., M.D., New Haven, Ct. 1887.

Loisettian School of Physiological Memory, or the Loisettian Art of Never Forgetting, etc. By Prof. A. Loisette, 237 Fifth Avenue, New York.

The Rectum and Anus. Their Diseases and Treatment. By Charles B. Ball, M. Ch. Univ. Dub., F.R.C.S.I. With fifty-four illustrations and four colored plates. Philadelphia: Lea Brothers & Co.

The True Nature and Definition of Insanity. By C. H. Hughes, M.D., etc. Former surgeon United States Army, late superintendent and physician-in-chief Missouri State Lunatic Asylum, etc. (Reprint). 1887.

The Throat and its Diseases, Including Associated Affections of the Nose and Ear. With one hundred and twenty illustrations in color, and two hundred engravings. Designed and executed by the author, Lenox Browne, F.R.C.S.E., etc. Second edition, rewritten and enlarged. Philadelphia: Lea Brothers & Co. 1887.

Original Articles.

A COMPARISON OF GRADUAL DILATION, DIVULSION, INTERNAL AND EXTERNAL URETHROTOMY IN THE TREATMENT OF URETHRAL STRICTURE.[1]

BY F. S. WATSON, M.D.
Surgeon to Out-patients, Boston City Hospital, Surgeon to Genito-Urinary Department, Boston Dispensary.

[This paper is intended to be little more than a framework upon which to hang a discussion of the subject, and is limited to the operative measures in the title. Organic stricture only is considered.]

I shall assume that there are now comparatively few surgeons in this country who do not accept Dr. Otis's conclusions in regard to the calibre and varying sizes of urethræ, and the proportion between the circumference of the penis and the urethra it contains, that is, that people have different sized urethras just as they have different sized noses. The average urethra is 32 Fr.; that this sized urethra will be found in a penis which measures three and one-fourth inches in circumference; that for every increase of one-fourth inch in the circumference the urethra will be two millemetres larger. So that when we talk about restoring a strictured portion of the urethra to its normal calibre we have these figures in mind.

These statements are not accepted by many foreign surgeons. And the result of their operations are the less enduring by just so much as they are disregarded.

I also assume that strictures of the anterior urethra contract more readily after dilatation than those of the deep urethra, and that strictures of the meatus contract most readily of all.

Starting, then, on this basis, the operations may be considered in the order named, dwelling only on the two important factors affecting the decision of choice of method, namely, their relative dangers and the permanency of their results.

(1) Gradual dilation is generally agreed to be the safest method of restoring the calibre of the urethra. Its mortality does not rise above one per cent. The method cannot be advantageously applied to resilient strictures, to impermeable strictures, to such as are so dense that the force requisite to traverse them converts the operation into divulsion. And, last but not least, should not be continued where constitutional symptoms appear during its use. I have seen several times the advantage of the bolder course in these cases, the last being one upon whom I recently made three attempts to dilate a stricture at five and one-fourth inches. Each attempt was followed by chill, fever and retention. I divided the stricture, as well as some anterior ones, freely with internal urethrotomy. The patient has had not the slightest disturbance since. This experience, as well as others, reiterates the statement made by Sir Henry Thompson in relation to this point, who observes:

"In relation to those cases in which rigor almost always occur after passing a bougie, I know nothing so admirable as the results of internal urethrotomy... Even the operation will not be followed by any rigor, nor will the patient be likely to experience another throughout his subsequent treatment."

I do not know of any one who claims permanent cures of stricture by gradual dilatation, but by way of exception in newly-formed ones. The contrary opinion, is that generally and strongly expressed. Dr. Keyes, for instance, says: "Occasionally, I believe, cure results from dilatation of strictures of the deep urethera, but very rarely if the stricture has any pronounced fibrous character."

Dr. McBurney says: "I do not think that gradual dilatation ever cures an organic stricture of the anterior or posterior urethra."

Dr. S. W. Gross, in the discussion in New York in 1878, said "he considered dilatation utterly unavailing as a curative procedure."

Dr. Gouley, on this occasion, resorted to gradual dilatation first and tried to effect a cure by this means and had done so, having had some (how many not stated), cases under observation for ten years; where this did not succeed after a reasonable time he would do internal urethrotomy.

Mr. Berkeley Hill similarly says, unfortunately dilatation fails to obtain an expansion which does not shrink again, and with the exception of an early stricture is a most unsatisfactory process.

Dr. Weir thinks that dilatation is entirely ineffectual in the anterior urethra, but being safer in the deep than other operations uses it there when he can do so, but does not expect to cure by it. My own experience with dilatation is derived from the treatment of over a hundred cases, of which I have been able to keep some knowledge, and it accords with the opinions above in relation to permanent results. I have had six cases in which a cure seemed to result; all were of recent formation and wide calibre. In the rest I could never bring about a permanent result, often after trying months, in some cases years, and carrying the dilatation sometimes to overstretching. I have had one case of cystitis and pyelitis follow the use of sounds, and one of cystitis alone. The chief reason for using gradual dilatation is that it allows the patients to go about their business. In the deep urethra, except in those cases where rigors, etc., follow its use, it is safer than divulsion or internal uretrotomy. The method on the other hand is responsible for more bad urethras (false passages) than anything else. It happens to the most skilful occasionally to do damage to the urethra by the use of sounds, and just so much more often to those who have less skill and experience. The steel sound has a powerful leverage, and chronically inflammed mucous membrane is easily torn.

Divulsion is chiefly associated with the name of Perreve and Voillemier in France, and Holt in England. It mortality is from one per cent. to five per cent.

	Cases.	Deaths.		Cases.	Deaths.
Holt	217	0	Caswell	15	2
Weber	6	0	Hill	120	2
Ashton	13	0	Fayer	16	0
Gouley	32	5	Christopher Heath	40	6
University Hos.	87	6	Le Dentu	24	2

Total, 590 cases, with 23 deaths, + 3%

I know of no one who claims permanent cures by this method, but by way of exception. It is only fair to say, however, that but few operators carry the splitting or dilatation subsequent to it to sufficiently high numbers, an incompleteness which internal urethrotomy also labors under in Europe. Dr. Cabot tells me, that when this is done, he has seen enduring results. With this exception and the fact that early strictures in exceptional instances as by dilatation may be cured by this method, I have not found any

[1] Read before the Surgical Section of the Suffolk District Medical Society, Nov. 2, 1887.

claims to permanent cures. Personally, I have never seen one, but, on the contrary, have thought it the rule to find the relapses, which I have seen after the operation in the hands of those who practice it, associated with dense deposits of connective tissue, very difficult to dilate. In many of the cases recorded in the Massachusetts General Hospital and Boston City Hospital, of *relapsed* strictures, I have found, when admitted for tight, dense strictures, they had already had divulsion performed at varying dates previous.

The reason for this is to be found, I think, in the nature of the scar made by the operation of divulsion. The wounds inflicted are beyond guidance as to direction, extent and depth. There may be one clean longitudinal rent, or many, the direction is sometimes in the long axis of the canal, sometimes as a jagged tear obliquely across it. In these respects the operation not only lacks scientific accuracy, but what is more important, lays the foundation for denser and less tractable connective tissue than was originally there. *Outside* the urethra it will be conceded that a scar resulting from the rending or bruising of the tissues ends in greater impairment of function of the injured part, and larger deposit of connective tissue than a clean cut. Is there any reason to believe it will be otherwise *in* the urethra?

This theoretical reasoning and practical experience, so far as I have observed, support each other.

Like divulsion, internal urethrotomy had its origin in France, and has been extensively practised there ever since. The mortality is the same as that of divulsion, from one per cent. to five per cent.

	Cases.	Deaths.		Cases.	Deaths.
Sedillot	21	1	Le Dentu	24	2
Gosselin	16	1	Terrier	11	0
Maisonueve	66	3	Otis	600	0
Trelat	4	0	Teevan	53	0
Dumarquay	12	0	Chr. Heath	130	7
Bonilt	5	0	Coulson	206	10
Desormaux	10	0	Sir H. T.	340	6
Reybard	14	0	Maston	333	0
Perrin	15	0	Watson	23	0
Guyon	459	20	Tilden	18	0
Mallez	180	2			

Total, 2540 cases, with 82 deaths, + 2%.

My own experience is small, being limited to twenty-three cases, without a death or serious symptom.

Is there any difference between the two operations when applied to the deep urethra? The only one is the greater liability to hæmorrhage from deep cutting than from deep divulsion. I can find no greater mortality on the score of pyæmia, shock, infiltration, extension of inflammation, suppression, etc. It is, however, very rare to hear of a death from hæmorrhage due to deep cutting. But many of the most ardent advocates of the method do not cut beyond five inches, on account of this danger, or at any rate anxiety. But the great advantage claimed for internal urethrotomy is that it produces more cures and permanent results than any other operation. This advantage is claimed in varying degrees by different operators, as will be seen from the following quotations, in which I have included, also, the opinions of the relative merits of divulsion and internal urethrotomy as compared with each other.

Sir Henry Thompson, after giving it as his opinion that urethrotomy is the safest and best and most enduring in its results, does not claim much for it as a radical cure. "While I am free to confess that my experience does not warrant me in promising immunity from return, we may often regard the period of return as remote. Now and then I have met with a case in which the patient's troubles have not reappeared."

His opinion of divulsion is thus expressed: "Divulsion, at one time so much in vogue, now so completely and properly neglected."

Berkeley Hill, in *British Medical Journal*, 1879, in speaking of the two operations, says: "I have abandoned the use of divulsion for its unsatisfactory results. This is manifested, on the one hand, by the speedy shrinkage of the split tissue to its former narrowness, or beyond it, and on the greater difficulty which ensues on a second course of treatment, a new formation of fibrous tissue, the result of the operation occurs." Mentions two cases of divulsion which relapsed in eighteen and five months respectively, and were found much narrower and denser than at the first operation.

Internal urethrotomy is a safe proceedure, while it has this crowning advantage that it gives, in all cases, a period of relief from stricture always measured by years, and often by a long term of years.

Teevan, speaking of permanent results of the two operations in 1880 *Lancet*, October 2d, says: "I can state from personal examination of hospital and private patients years after they have been operated upon by different surgeons, that the tough non-dilatable cicatrices resulting from divulsion contrasted very unfavorably with the soft, supple, dilatable splices inserted by internal urethrotomy.

Coulson, 1884 *British Medical Journal*, Sept. 29th, considers that internal urethrotomy gives much the most enduring results. After divulsion the cicatrices often give rise to contractions as resistant as traumatic strictures.

A. Swinford Edwards thinks that relapsed strictures after divulsion are much more dense than the original disease was.

William Thornley Stoker, *Dublin Journal of Medical Science*, 1885, vol. 79, p. 410, says: "In the early years of my practice I performed divulsion frequently, and the best expression of my opinion in regard to it is that I have completely relinquished it for internal urethrotomy. The return of stricture after divulsion is as much the rule as it is the exception after urethrotomy."

In London, divulsion is practised now in only three out of fourteen hospitals. Internal urethrotomy is practised, as a rule, by Sir Henry Thompson, Messrs. Wood, Croft, Berkeley Hill, Annandale, Coulson, Jordan, Laud, Teevan, and many more of the best men in England. Are not these last two facts sufficiently suggestive? Especially are they so when we take into account that most of these men were brought up on divulsion, and all practised it.

In France we find varying opinions as to the relative advantages of the various operative procedures. These opinions were well mirrored in the discussion that took place last spring before the Societe de Chirurgie. Among the participants in the discussion were Le Fort, Tillaux, Trelat, Pollailon, Despres, Marc See, Horteloup, Le Dentu, Kirmisson, Terrier. The discussion followed a paper by Le Dentu, who compared twenty-four cases treated by divulsion with twenty-four by internal urethrotomy. Each set had two deaths. The society was about evenly

divided in its opinion as to choice between the two operations, but gave the preference to gradual dilatation, when it could be performed, to either. It is noticeable, however, that, as in England, but few radical cures are claimed. But in both countries *the old standard practically remains in regard to the extent to which the operation should be carried.* This, I think, is the reason why there is such a wide difference of opinion between American surgeons and those of other countries as to the permanency of the results. For here, the advocates of the operation claim *permanent cures of strictures anterior to five inches, as the rule;* by permanent cures, meaning a freedom from recontraction and the use of sounds for years, generally all their lives.

Dr. Otis, of New York, heads the list of those holding this belief, and asserts that if such strictures are thoroughly cut (according to the rules laid down in the beginning of this paper), and are kept open by the passage of sounds until healing is complete, they never return. From this, which is the extreme view of the situation, some of the differences may be seen by the following quotations:

Dr. Keyes says: "I always cut strictures of the pendulous urethra internally. This cures them radically, *as a rule.*"

Dr. McBurney writes: "I have a very poor opinion of divulsion for any stricture, and believe that it seldom cures. I do not think that gradual dilatation ever cures an organic stricture. Internal urethrotomy is my constant practice for all strictures anterior to five inches, and I expect a cure as a rule."

Dr. Bull practices internal urethrotomy and obtains frequent permanent results. Does not practice divulsion.

Dr. Weir practices internal urethrotomy as a rule. I do not know his opinion as to final results.

Dr. S. W. Gross, of Philadelphia, says: "All permeable strictures are best treated by internal incision, while for those situated within four and a half inches from the meatus it is the only method which holds out the slightest prospect of a radical cure. I have performed the operation too frequently not to be convinced of its superiority as to enduring results over all other methods."

My own experience is too small to contribute much to any decision, but I have been at some pains to follow the cases up, and as most of them have occurred in private practice, it has often been possible, as they are all directed to come twice annually for examination, and generally do so. The number is twenty-two. There have been no deaths, and no serious symptoms in any. No stricture has been cut that was deeper than five inches.

1.	6 years ago.	Internal urethrotomy. Uses no sounds. Has never recontracted since.	Has no symptoms.	
2.	5 years ago.	No sounds.	No recontraction.	No symptoms.
3.	4	do.	do.	do.
4.	4	do.	do.	do.
5.	3	do.	do.	do.
6.	3	do.	do.	do.
7.	3	do.	do.	do.
8.	3	do.	do.	do.
9.	3	do.	do.	do.
10.	1	do.	do.	do.
11.	1	do.	do.	do.
12.	1	do.	do.	do.
13.	1	do.	do.	do.

14 to 17 recent.
4 cases lost sight of.
22, Total.

Four were lost sight of after a few months. One of these, however, showed signs of recontraction before he went away, and it is interesting to note that in this case I did not divide the stricture thoroughly, having only a small Maissoneuve knife. One case has had, to my knowledge, to use sounds ever since.

With an occasional exception, then, in the cases I have been able to follow, the operation has given the patients entire immunity from periods varying from six years to one year. I cannot say that they may not contract again at some time in their lives until they and I have lived our lives, but they certainly show no disposition to do so. This, so far as it goes, forms a basis for a favorable opinion in regard to the operation. I cannot go so far as Dr. Otis in thinking that all cases properly cut are always cured, because I have seen strictures recontract after it has been done, and done well, too.

But what are we to do with deep strictures? It will be seen from the following that some surgeons hesitate to cut internally beyond five inches.

Dr. Keyes says he would never divulse or cut a stricture of the deep urethra. By preference he dilates such when possible. "In all cases of severe deep urethral stricture not suitable for dilatation I think best of external urethrotomy. I have tried all the operations a number of times, and can only give as the sum of my experience that final expression of opinion namely, the personal one. If I had a deep urethral stricture not suited to treatment by dilatation I would elect to be cut externally by a competent surgeon rather than run the risk of efficient divulsion or internal urethrotomy."

Dr. McBurney says: "In a tight undilatable stricture at five inches or beyond, I would always do an external urethrotomy. Nothing could persuade me to do a divulsion in such a case."

The opinions so decidedly expressed by two such good authorities are gaining ground in many quarters, and here it is that external urethrotomy puts in a claim as a competitor. Its mortality, based on a calculation of more than a thousand cases taken from Gregory's tables, Hourteloup, and other sources — since the days of antiseptics — is at the highest eight per cent.: if the figures are sifted it becomes three per cent., but let the figures stand, as in the other calculations, at their face value. In the earlier days the mortality was much higher, due to to the fact that dirt reigned supreme, as is shown by the large number of deaths due to pyæmia and septic processes; and, also, because the operation was rarely employed except as an emergency operation. I have only done the operation eight times without mishap.

I would call attention to the fact that when perineal section is performed for purposes of exploration of the bladder, no stricture being present, there has been practically no mortality. This gives a good idea of the danger of the operation *per se.* Its danger where long-standing deep-seated stricture is present, is at its height. Here it isn't the operation that kills, but because we are obliged to operate when the patient is prepared for death by renal complications and a broken constitution. The less serious the stricture the less risk in the operation. And, although I cannot furnish figures to support this view, I feel safe in saying that if the operation were performed earlier the mortality would compare favorably with that of divulsion or internal urethrotomy. Once a deep stricture is beyond the control of dilatation it seems to me best treated by external urethrotomy. And I would suggest that the

operation be not reserved until retention and extravasation are actual present dangers, but do it while the urethra is still permeable for a guide. The permanency of results are not so good as those of internal urethrotomy, so far as I can learn, though they are sometimes enduring, as in a case which I recently saw, in which Dr. Cheever performed the operation seventeen years ago, and the patient has only recontracted to a small size recently, and has entirely neglected his urethra in the interval. Dr. Keyes tells me, also, that he has radically cured a severe traumatic stricture by this operation. A reason why, as a rule, the results are not so permanent may, perhaps, again be found in the same reason that affects the mortality, namely, that the cases so dealt with are only the severest forms, and consequently even with a guide we can seldom divide the strictured portion with one clean cut. The cut must often be extensive, and long in healing, exposed to the air, the contact of dressings, etc.

One of the objections always urged against external urethrotomy is that it is liable to leave a urinary fistula afterward. I do not know the exact proportion of cases in which this is the case. Again, it is probable that if the operation were done earlier the healing would be more complete, and fewer fistulæ would result. It is by no means a great misfortune to have a fistula, and it may be a safety-valve. A great deal of discomfort may be avoided by using a catheter. In the first case I did the patient has today a fistula. He can urinate by the natural channel without a drop coming by the fistula by standing with his legs slightly crossed. Moreover, such urinary fistulæ can often be closed by plastic operations, so that their number may be reduced. The immediate union of the wound by suture also aids in securing this end.

(1) *Conclusions.* All strictures anterior to five inches are best treated by internal urethrotomy. Dr. Otis's operation yields the most enduring results.

(2) Divulsion should be rejected as an operation for stricture, unless it can be shown satisfactorily that where carried sufficiently far it yields as permanent results in as many cases as internal urethrotomy.

(3) Dilatation where practicable should be employed in strictures deeper than five inches.

(4) For strictures deeper than five inches not suitable for dilatation external urethrotomy should be selected, and not reserved for an emergency operation only.

A CASE FOR THE MEDICAL EXAMINER.

BY S. D. PRESBREY, M.D.

ON Saturday, June 11, 1887, I was visited by a young man, who resides in a farming-district about ten miles from Taunton. He wished to notify me of a sudden death and to ask for investigation, since he had been informed by the physician who had been called, that such was the proper course. From my visitor I learned in substance the following facts. The dead body was that of a young woman twenty-one years of age, who had been living as a domestic in his father's family. The family consisted of his father, an elderly man, whose wife had been dead two years, and his brother, unmarried, about twenty-five years of age. He himself, and his two sisters, all married, lived in the vicinity. This domestic came into the family seven years ago, and at first acted as assistant, but at the death of his mother became the housekeeper. She had relatives in Ireland, and one sister, who was then on her way to this country, was daily expected. She had no relatives in this country except an aunt, with whom she was said not to have been on good terms. My informant and all the members of the family with whom I afterward conferred, spoke in the kindest terms of the young woman, and from no one of them could I learn anything unfavorable, either as to her character or her ability.

On this Saturday forenoon my informant was at work with his younger brother, the one mentioned above, planting upon their father's farm. His father was not at home, having gone out of town on business. The young woman had attended to her household duties as usual, and was supposed to be preparing to go with his sister to a neighboring city to do some shopping. At 11.30 the young man went to the house to get seed for planting, and on entering the house he heard groans, which appeared to come from a room in the second story. He went up-stairs, as he says, and found the door of the girl's room locked. The groans continued and he got no answer to his repeated calls. Failing to fit the lock with any keys which he had with him, he forced the door open and found the young woman quite naked, sitting in a wash-tub partly full of water, leaning back and unconscious. He placed her upon her bed, covered her with blankets and at once notified his brother, his sister-in law and his sisters, who all live not far from his house. A physician was summoned, but before he arrived, and within a few minutes after having been placed upon the bed, she ceased to breathe.

This history was given by the young man and was evideutly accepted by all members of the family as correct, nor has any doubt been thrown upon it by any thing that has been since learned.

The room and its contents had been left for my inspection, exactly as found. The young woman's clothes were lying upon a chair, there was soiled water in a wash-tub, soap-dish with soap stood near, towel was handy, and in short the room justified the opinion that she was in the act of taking a bath.

The body showed no marks of violence, and from the view and inspection no satisfactory theory of the cause of her death could be formed. A conference with the selectmen of the town, to whom the above report was made, resulted in a request that an autopsy be made, and if necessary a chemical analysis of organs. After the necessary preliminaries, on Sunday morning the autopsy was made, of which the following is the report. Twenty hours after death, rigor slightly marked; body, full and round; pupils, evenly but not widely dilated; slight "black-and-blue spot" upon the middle of the left clavicle; front of body pale, back, purplish red; no froth or bloody matter about mouth or nostrils; external orifice of vagina patulous, easily admitting two fingers; hymen not seen; rugæ of vagina, coarse and hard; nothing more learned by inspection.

Internal examination. Cut surface of scalp bloody, and an excess of fluid blood found in veins and sinuses, especially in dependent portions; nothing abnormal in the brain; incisions show no traces of air in the circulation; trachea lined with a delicate coat of bub-

[1] Read before the Massachusetts Medico-Legal Society, October 5, 1887.

bling mucus, not bloody; lungs, spleen, liver and kidneys engorged and of dark color, more especially in dependent portions; large veins filled with dark liquid blood, no clots found. The large vessels about the heart were carefully tied. The heart was small and soft, but otherwise apparently normal, and quite empty. The uterus was removed with its appendages and the upper part of vagina; the os uteri was entirely plugged with mucus, not bloody, and never having been disturbed; uterus about four and a half inches long and three inches wide at the fundus; the membranes were unruptured, and containing liquor amnii and a fœtus measuring from head to caudal curve one and three-quarters inches; the umbilical cord was not spiral; the interior of the uterus showed no marks of violence; the right ovary contained a distinctly marked corpus luteum; other organs normal in appearance.

Portions of the brain, liver, kidney and the stomach complete were sent to Dr. William B. Hills of the Harvard Medical School for examination. The following is his report:

"I have completed the analysis of the organs of —— ——and do not find anything to account for death. The stomach contained one-half ounce of semi-fluid brownish contents which from microscopic examination were found to be composed in great part of remnants of food, namely, fat, starch, partly digested muscular fibre and more or less vegetable tissue the exact nature of which could not be determined. The contents of the stomach contained also a small amount of sulphate of iron. The presumption is, I think, that this was taken in the form of a pill, with perhaps aloes or something similar. I think I am right in believing that such pills are sometimes taken under the impression that they will cause abortion. At any rate I have met with two cases in which such pills (containing sulphate of iron) have been administered by abortionists for this purpose. I do not think, however, that there is the slightest reason for supposing that the sulphate of iron was the cause of death. The amount present was small, and there was no evidence of any inflammation of the mucous membrane of the stomach.

"Chemical analysis of the stomach and contents showed the absence of all the *ordinary* poisons. The tests for most of the substances employed as abortifacients are not so well-defined as those for the ordinary poisons, and for detecting them we have to rely to a considerable extent on the microscopical examination, being aided at times by the odor. I did not, however, discover anything on microscopical examination which suggested the use of any abortifacient which may be detected in this way, and there was no indication to the sense of smell of any of the essential oils, neither could any essential oil be detected by chemical analysis.

"I think I should add, in order to make the report as complete as possible, that at one point on the mucous membrane of the stomach, was a slight brown deposit, and a portion of the deposit was sulphate of iron; I could not determine the nature of the remainder. There was nothing characteristic about it when examined beneath the microscope, and analysis threw no light on its nature. I think it was some vegetable substance; and there is a large number of these for which there are no known tests. It was the occurrence of this deposit, which led me to think that the sulphate of iron was administered in pill with some organic substance."

"(Signed) William B. Hills."

After careful deliberation upon the facts of this case, it was thought best to submit the following return, "that —— —— came to her death by natural causes, the exact nature of which was not disclosed, autopsy and chemical and microscopical analysis giving only negative results."

Though we were unable to arrive at an exact diagnosis in this case which we could record with a conviction of its absolute accuracy, several theories of the cause of death came up for consideration.

First, the theory of poisoning, whether accidental or intentional, would seem to have been set aside by the examination of Dr. Hills, and his report lends weight to the idea that she was only using ordinary and simple means to induce the appearance of her menses, such as the aloes and iron and the warm water sitting-bath.

Again, our history of her position and condition when found, rests entirely upon the evidence of one person, who might possibly be an interested party. The circumstances, however, seem to corroborate his statements. Yet, if in the face of his statements and of the circumstances, we were to consider the possibility of death by smothering and arrange the evidence in order, we should find fluid blood in the larger veins and sinuses; lungs, spleen, liver and kidneys engorged; no clots; bubbling mucus, not blood-stained, in the trachea; no blood about the mouth and nostrils; heart quite empty (even the right heart); and no appearance of subpleural ecchymoses — a condition that would hardly warrant the diagnosis of death by smothering.

Taylor describes a mode of death which he calls syncopal-asphyxia, in which the symptoms substantially as above mentioned may be expected, and it seems worthy of consideration whether a pregnant woman, anxious as to her condition, hurrying through her work (to be in readiness to go out with a friend), and immediately sitting in a tub of warm water, may not become faint, and leaning helplessly backwards over the edge of the tub, may she not become so exhausted that nature may fail to rally, even if the body has been placed in a horizontal position before respiration has ceased? I am not prepared to say that this theory of the cause of death is quite satisfactory, yet I have been unable to suggest a theory that meets the circumstances of the case any more fully.

CASES OF URETHRAL STRICTURE, TREATED BY ELECTROLYSIS.[1]

BY G. W. ALLEN, M.D.,
Surgeon in the Genito-Urinary Department, Boston Dispensary.

The following cases of stricture were treated by electrolysis, the method employed being essentially that advised by Dr. Newman, of New York, and Mr. Clark, of St. Bartholomew's Hospital, London. The calibre of the stricture having been measured, a bulb-electrode one or two sizes larger is passed down to it and connected with the negative pole of a galvanic battery. The positive pole is attached to a broad

[1] Read before the Surgical Section of the Suffolk District Medical Society, Nov. 2, 1887.

metallic electrode, covered with wet absorbent cotton (or a sponge electrode), which is held against the abdomen or elsewhere. The strength of the current used should be from three to five milliampères. In the cases reported it was four milliampères; a little less in the last case. The electrode will generally pass through the stricture within half-an-hour, only the gentlest pressure, if any, being exerted. The operation is painless. Very little after-treatment is indicated. In these cases ten grains of quinine were given after each operation, and the patients were advised to keep quiet for a day or two. After an interval of a week or more, not less, the urethra is examined to ascertain the result of the operation.

CASE I. G. T., twenty-eight years old, was first treated for stricture two years ago. His urethra is very sensitive and he has several times had chills after the passage of sounds.

Strictures of a calibre of 19 (French scale) were found at $\frac{1}{2}$ inch and at 2 inches from the meatus, and one of 16 at $3\frac{1}{2}$ inches. The first stricture was treated by electrolysis May 7th. Electrode No. 20 was placed against the stricture and with a current of 4 milliampères it passed through in 20 minutes. Within 12 hours the patient had a severe chill, with fever and vomiting, and was quite ill for several days. He returned to the Dispensary in about a month, but the result of the operation could not be accurately ascertained, as he had meanwhile been treated by gradual dilatation at the City Hospital. This latter treatment was continued.

CASE II. J. H., fifty-three years old, had strictures admitting 17 at $1\frac{1}{2}$ and $1\frac{3}{4}$ inches. May 24th, electrode 18 passed both strictures in 10 minutes. Although there was no chill, the operation was followed by malaise lasting a week, with considerable local irritation and a copious discharge. The strictures were found to have contracted to 14 and the treatment was abandoned.

CASE III. E. J., thirty-nine years old, had his first gonorrhœa eighteen years ago and symptoms of stricture fifteen years ago. He came to the Dispensary with a chronic discharge and, when examined, was found to have strictures as follows: at $\frac{3}{4}$ inch 22, at $1\frac{1}{2}$ inches 18, at $2\frac{1}{4}$ inches 14. July 28th the middle stricture (18) was electrolyzed and electrode No. 20 passed through in 15 minutes. The operation caused no constitutional symptoms whatever, but some local irritation with increased discharge and painful micturition, on account of which, examination was delayed, and the patient was lost sight of until September 22d, when the stricture operated upon and the one posterior to it were found to be the same size as before, while the anterior stricture had contracted. He had had no treatment meanwhile. Two days later electrode 17 was passed through the narrowest stricture (14) in 20 minutes. This was followed by no constitutional symptoms and by less local disturbance than before. One week later (October 1st), bougie à boule 18 was passed easily through all the strictures. The urethra was very sensitive. October 8th, a bulbous bougie No. 19 was passed, meeting with some resistance at each stricture. Electrode No. 20 passed all three strictures in half-an-hour. October 20th, the strictures were defined by bougie à boule 21, 22 passing with slight difficulty. Another operation was begun, but when, in about 15 minutes, electrode No. 25 had become engaged in the first stricture, the patient suddenly became faint, and nothing further was attempted. He has not since been seen.

CASE IV. J. C., twenty-eight years old, began to have symptoms of stricture four years ago, and complete retention two years ago. On examination, he was found to have a series of strictures, gradually diminishing in size from 25 at $1\frac{1}{4}$ inches to 11 at $3\frac{1}{4}$ inches and at 5 inches. August 23d, electrode No. 15 was passed to the first of the two narrowest strictures (11) but failed to pass in 20 minutes. This operation was followed by no constitutional symptoms, but by increased discharge, difficult and painful micturition, and a great deal of swelling and induration about the seat of the stricture. The size of the stricture was apparently unchanged. It was deemed advisable to discontinue this treatment and gradual dilatation was substituted. A smaller electrode would probably have been better in this case, but was not at hand.

REPORT ON FOODS, DRUGS, AND THEIR ADULTERATIONS.

BY BENNETT F. DAVENPORT, M.D.

EXAMINATION OF PEPTONE PREPARATIONS.

THE variable composition of the so-called peptone preparations of the market led August Hirschler [1] to make quantitative estimations of them for both the true nutritive peptones or allied bodies, and the less nutritous ones. He precipitated the nutritive peptones by means of phosphotungstic acid and estimated the amount of nitrogen they contained, and he also estimated the total amount of nitrogen in the preparation, and, subtracting one from the other, obtained the amount of nitrogen equivalent to the non-nutritious nitrogenous material present. The following table shows his results:

	Koch's	Kemm'rich	Witte	Weyl	Simon
Total percentage of Nitrogen	8.08	10.04	13.3	12.68	10.15
Percentage of nitrogen from non-nutritious nitrog. Substances	10.7	9.72	9.21	13.9	9.86

According to the investigations of Kühne and Chittenden,[2] albuminoids digested by means of the pepsin ferment do not form true peptones, but do form hemi-albuminose which is identical with the propeptone of Schmidt Mülheim, and which must be considered as an intermediate product between albuminoid material and peptone. Kühne and Chittenden found in the resulting products from the digestion of albumen with pepsin, four different kinds of albuminoids, but in the peptone preparations of the market said to be made in this manner, no peptone at all, or only mere traces were detected.

The hemi-albuminoids differ from albumen in their solubility in hot water in dilute-salt solutions, and in their behavior toward weak acid solutions, and property of separating in the cold. They also differ from true peptones by dialysing slowly, and by being precipitated by common table salt, by this and acetic acid, and by acid or alkaline solutions of ammonium sulphate.

[1] Zeit. chem. Ind., 1887. Heft. 2, 62.
[2] Zeit f. Biologie, 1883. Bd. 19, 159, and 1884, Bd. 20, 1.

Koenig [3] says that commercial so-called peptone preparations should more correctly be called meat albuminoids (fleisch albuminosen), while the term meat peptones should be bestowed only on those preparations which are the result of pancreatic digestion.

MEAT EXTRACTS AND BOUILLON EXTRACTS.

In the table given below will be found the analysis made by Rudolph Sendtner[4] of the meat and bouillon extracts of the market, the method used being the one published in volume one of the *Archives für Hygiene.*

	Water.	Ash.	Organic Substances.	Nitrogen.	Soluble in 80 per cent. alcohol.	Chlorine Present in the ash
	%	%	%	%	%	%
1. Pastoril Meat Ext.	15.50	26.23	58.27	—	61.74	—
2. Pisoni's Ext. of Meat	17.73	19.68	62.58	—	64.68	—
3. Kemmerich's argent. Fleish Ext.	18.88	19.46	61.66	—	59.06	—
4. Cibils' Ext. Carnis	19.41	26.43	54.15	—	62.86	21.32
5. Liebig Ext. av. of 170 analyses	18.79	23.02	58.19	8.00	61.85	10.00
6. Saladero Concordia	21.88	15.85	62.27	9.64	58.29	—
7. Peptone de viande, Kemmerich	34.27	7.70	58.02	9.36	28.40	—
8. Cibils' Hermanos (fluid)	64.12	18.29	17.58	2.10	34.28	44.45
9. Koch's Peptone Bouillon	59.58	15.88	24.54	3.65	32.78	43.19
10. Kemmerich's Cond. Fleisch Bouillon	62.59	17.06	20.35	3.13	29.32	41.97
11. Maggi's Bouillon Ext.	68.64	23.80	7.56	1.29	25.79	57.23
12. Bouillon Conc. Morris Canning & Co.	64.24	13.40	22.35	—	29.87	—

The first four preparations have a composition similar to that of Liebig's extract. Cibils' extractum carnis and Pastoril's fleish extract have probably had salt added to them. Numbers eight to twelve are fluid extracts, or bouillon extracts, and according to the amount of nitrogenous material present in them, stand in the following relation: Maggi, 1; Cibils, 1.62; Kemmerich, 2.43; Koch's, 2.84; Liebig's, 6.10. The amount of chlorine found in the ash is the guide to the amount of salt added to these preparations. If we subtract the normal amount (ten per cent.) of chlorine which is found in the ash of a true meat extract from that found in the ash of these preparations, we find that Cibils has had 56.7, Koch's 54.69, Kemmerich's 52.68, and Maggi 77.83 per cent. of the salt which they contain added to them. As regards flavor the author considered that Cibils ranked first in tasting more like beef soup. This is not true of the other preparations. If a little salt, and perhaps some water, be added to the well-known Liebig's extract a bouillon can be prepared, at a considerable saving of expense, which will compare very well with the bouillon preparations of the market that are now so highly praised.

THE NATURE OF PEPSIN.

Carl Sundburg [5] has undertaken to show that the ferment pepsin is not an albuminoid body, and that albuminoid reactions that are obtained from the so-called pepsins are due to foreign materials contained in them. He claims that by subjecting the pepsin to successive dialysations a solution is obtained which has powerful digestive properties, and which responds to no tests for albuminoids.

SACCHARIN.

According to Maumené,[6] Fahlberg's saccharin is allied to taurin. He claims it consists of two substances which differ in their solubility in water and alcohol. These substances can be separated by forming double salts with sodium chloride. One of the substances contains 12.98 per cent. of sulphur, the other 15.6 per cent, the latter alone containing the powerful sweetening principle. Saccharin is said to be prepared from toluol. It is a white powder, acid in reaction, slightly soluble in water. If the acidity be neutralized with potassium carbonate or hydrate, its solubility in water is increased. It has an odor not unlike bitter almonds, and is 280 times sweeter than cane sugar.

Saccharin is now principally used to sweeten the food of diabetic patients.[7] It has no nutritive value.

Aducco and H. Mosso have found that urines which contain it resist fermentation for a long time. Pollatchek [8] has used it to disguise the taste of drugs, and since its solubility is increased by alkalies he combines it with sodium carbonate, as in administering quinine.

EUCALYPTUS HONEY.

Guillmette [9] obtained in Tasmania specimens of honey which were deposited on eucalyptus trees by a specimen of black bee. The honey had a strong odor of eucalyptus, and when taken internally is said to diminish the frequency of the heart's action. When mixed with milk or water it makes a very pleasant drink. It is highly praised in diseases of the throat and lungs by some.

ARTIFICIAL BUTTER.[10]

As an extra precaution in the sale of the above product it is recommended by a food journal in Germany that the government require manufacturers to comply with the three following conditions: (1) Every artificial butter manufactory must be under the surveillance of German officials; (2) every 100 kilos of artificial butter must have one gram of phenol-phtalein added to it; (3) Failure to comply with the second condition is punishable by a fine of five hundred marks for a first offence. For a second offence a fine of one thousand marks to be imposed, and the right to carry on its manufacture to be revoked.

The presence of phenol-phtalein in artificial butter allows the latter to be easily detected should natural butter be adulterated with ten per cent. of it. All that is necessary to detect it is to add an alkali as potassium hydrate, or even cigar ashes, to the sample, and an intensely red color is obtained.

Penol-phtalein is non-poisonous, has no physiological action, and hence does no harm when added to the butter.

[3] Revue Internationale, fals des Dendrées aliment. 1 liv., 1887, 13
[4] Archiv. für Hyg., vi, 253.
[5] Phar. P. 1887, xx. No. 18, 288.
[6] Phar. Rund., 1887, No. 5, 113.
[7] D. Med. Ztg. 1887, 131.
[8] Phar. Centralb., 1887, xxviii. No. 20, 253.
[9] Drog. Ztg. 1887, xiii, No. 17, 213.
[10] Z. für Nahr. Untersuch und Hyg. I, Heft 7, 134.

NEW ARTIFICIAL BUTTER LAW.[11]

At a meeting of the German artificial butter manufacturers held in Frankfort on August 13th and 14th, attention was called to the new artificial butter law of the Canton St. Gallere, where the government requires that all artificial butter should contain at least twenty-five per cent. of natural butter. The German manufacturers considered that they were submitted to hardship in not being allowed to improve their products in the same manner, as their law forbids any admixture.

NEW METHOD OF PRESERVING BUTTER.[12]

M. Pierre Grosfels, of Vervier, has communicated to the "Société d'encouragement de Vervier," a process for preserving butter for a long period, so that it may be imported into countries the climate of which does not permit it being made there, on account of the very high temperature. It consists of working the butter in water containing two per cent. of lactic acid, and two per cent. of one per cent. of salicylic acid. The process is stated to be very economical, as the antiseptic liquid will serve indefinitely being unalterable, and its cost is but slight.

"NORMAL" PAPER.[13]

Those who have recently visited Germany could not have failed to notice the extensive sale Prof. Gustav Jaeger's "normal" underwear was having, and may be interested to know that he has suggested a method for the manufacture of "normal" paper. He calls attention to the unhealthy property ordinary paper has of absorbing disagreeable odors or vapors, and again giving them off in moist atmospheres. This he best illustrates by the odors noticeable in large libraries and document rooms, on a wet day. He suggested that a paper be manufactured from vegetable fibre, not unlike parchment, which has not the above disagreeable property, and he now has manufactured under his supervision at the Balsthal Solothurn paper manufactory, the following varieties:

(1) Packing paper, free from coloring matter and bleaching materials, to be used for food products.

(2) Writing paper, and paper for printing purposes, which contains a slight amount of clay, but which is also free from coloring matter and bleaching materials.

(3) Writing paper free from clay and other matters. This is thin and transparent and allows writing only on one side.

A NEW SUBSTITUTE FOR THE POTATO.[14]

At a recent meeting of the "Société Nationales d'Agriculture" in Paris, Mr. Triana, of Columbia, South America, showed two varieties of the Arrachacha esculenta. These plants, he said, belong to the family of umbelliferæ and the tubers are not unlike medium-sized turnips in shape. It is sweet and mealy, and during the recent potato disease in Columbia, they were found to be fitting substitutes for the potato. Attempts have been made to cultivate them in France, but thus far with poor results. Experiments are now being carried out by the Agricultural Society of Paris, and it remains to be seen whether it can be cultivated sufficiently to be of commercial value as an article of diet.

[11] Zeit. für Nahr. Untersuch und Hyg., September, 1887.
[13] Board of Trade Journal, September, 1887.
[13] Zeit. für Nahr. Untersuch und Hyg. I. Heft. 7, 136.
[14] Zeit. f. Nahr. Untersuch und Hyg. I. Heft. 4, 1884.

TERPIN HYDRATE AND TERPIN OIL.[15]

These are among the latest of the terpenes and camphors introduced into medicine. Terpin hydrate is formed by mixing oil of turpentine, alcohol and nitric acid in the cold, where it separates as large rhombic crystals, easily soluble in water, alcohol or ether. Terpin oil is formed by the action of dilute sulphuric acid on terpin hydrate. Terpin hydrate is only superior to oil of terpentine in being less aromatic.

EXTRACT FILICIS MAS.[16]

This extract is usually required to be of a deep green color, such being preferred to the brownish green. Weppen and Ledders report in the *Berlin Ph. Ztg.*, that it is impossible to obtain a green extract with the exclusion of metallic copper vessels in its preparation. It owes its green color, when present, to copper, or to added chlorophyl.

PHENYL COCAINE.[17]

A preparation of this name is said to be an effective local anæsthetic in dentistry. It is prepared according to G. Viau[18] by heating one part phenol with two parts cocaine. It is not as yet known whether an actual chemical combination takes place or not.

SALICYLATE OF SODIUM.[19]

It is asserted that considerable quantities of this salt are now offered which contain much more sodium than is necessary to make the salt, in other words, a large amount of uncombined carbonate or bicarbonate is present as an adulterant.

ADULTERATION OF COFFEE.[20]

L. Padé, chemist in Paris, calls attention to two new methods of adulterating coffee. (1) Coffee that has been damaged at sea is freed from the sea salt by washing, and is then bleached with lime, again washed, and then either partially roasted or colored with an azo color. (2) This second method is used in roasted coffee, the intention being to increase its weight as high as twenty per cent., by either moistening it with water or impregnating it with superheated steam. Coffee treated in this manner can best be detected by taking the specific gravity, or by estimating the loss of weight, caused by exposing it in a drying oven to the temperature of 110° C. for six hours. Good roasted coffee never losing more than one or two per cent.

If the specific gravity is below 1,000, look out for damaged coffee which has been partially roasted. Dye stuffs can be detected by placing the coffee in alcohol, when, if they are present, the color will appear in the alcohol.

A NEW TEA.[21]

Attention is being called to a new kind of tea, the so-called coffee-tea, which is made from the roasted leaves of the coffee-tree. It is said that when the leaves are thoroughly roasted, and an infusion is made, a dark brown liquid is obtained. This looks not unlike coffee prepared from the beans. It smells like green tea and tastes like a mixture of tea and

[15] Ther. Mnthp. 1887, 8.
[16] Phar. Rec., Vol. 7, 19, p. 317.
[17] Phar. Zeit. 45, 317.
[18] Nouv. Revue., 1887. 192.
[19] Phar. Rec., Vol. 7, 6, p. 94.
[20] Chem. Tech. Zeit. 1887, 261.
[21] Handels-Bericht Gehe & Co. April, 1887.

coffee. The coffee leaf contains about one-half as much of caffeine as the beans.

MATTA.

This substance, which is used largely as an adulterant in spices, varies greatly in its composition according to the spice it is intended for. Hanausek[22] found its chief constituent to be millet bran. Nevinny[23] finds the so-called pimento-matta to consist of powdered dried pears.

GALAZIMA.[24]

This is said to be a milk preparation not unlike koumis and kephir, and is prepared as follows: four parts of yeast are dissolved in water with ten parts of sugar, and added to 1,000 parts of milk, the whole being thoroughly shaken. After standing twenty-four hours, the preparation is ready for use. It should contain about one per cent. of alcohol, and be saturated with carbonic acid gas.

COLORLESS HYDRASTIS.

Examination of commercial samples of the above preparation, by G. Steinmann,[25] shows it to be nothing but a solution of hydrastin in dilute sulphuric or hydrochloric acids. Boracic acid was also found in some samples.

CONDURANGO WINE.

Condurango bark, which fifteen years ago was highly recommended as a cancer remedy has now fallen into line again. This time as a stomachic, in the form of a wine. The best preparation is made according to G. Vulpius,[26] by macerating one part coarsely-ground condurango bark in ten parts of sherry wine for eight days.

Clinical Memorandum.

A CASE OF BACKWARD DISLOCATION OF THE THUMB UPON THE METACARPAL BONE, IRREDUCIBLE BY MANIPULATION: REDUCED BY CUTTING DOWN ON THE JOINT.[1]

BY J. W. ELLIOT, M.D.

THE patient was a waiter, thirty-four years old. On April 29th, while engaged in packing a trunk, he fell backwards and doubled his right thumb back on his hand. His doctor tried in vain to reduce it, using much force in pulling. He came almost immediately to the Massachusetts General Hospital, where he was seen by Dr. Elliot. The right thumb was dislocated backwards upon the metacarpal bone. Two facts were noted as peculiar; first, *head of the metacarpal pointed almost straight out towards the palm of the hand;* second, a very rigid muscle could be seen and felt running across the metacarpal bone to the first phalanx.

After one or two ineffectual attempts to reduce the deformity, ether was given. Even under ether, both Dr. Harrington and Dr. Elliot found reduction impossible. All the known procedures were tried in vain. On cutting through the skin and fat, the glistening head of the metacarpal bone appeared completely stripped of all its ligaments. It had pushed through between the heads of the flexor brevis pollicis muscle. In this position it was firmly held by tense muscular bands on both sides of the neck of the bone. The tendon of the flexor longus pollicis was round under the head of the bone in such a manner as to reinforce the posterior and deeper part of the flexor brevis. In this position every attempt at reduction, only locked it tighter.

The tendon of the flexor longus pollicis was first hooked up over the head of the metacarpal bone and even then it could not be reduced; but when the anterior head of the flexor brevis pollicis was pulled forward, the bones easily slipped into place.

The wound was closed with one cat-gut suture and a dry gauze dressing applied. The patient was treated as an out-patient. There was no pain and no swelling. The wound was first looked at at the end of ten days when it was found healed by first intention. The patient has now a perfectly useful thumb. The result is surprising when we remember that the joint was torn completely apart and that the tendon of the long flexor was pulled out of its sheath for at least an inch.

[1] Read before the Surgical Section of the Suffolk District Medical Society, November 2, 1887.

[22] Zeit. für Nahr. Untersuch und Hyg. I. Heft. 2 and 3.
[23] Zeit. für Nahr. Untersuch und Hyg. I. Heft. 3.
[24] Drug. Circ. February, 1887.
[25] Amer. Jour. Pharm. July, 1887.
[26] Arch. Pharm. 1886. xxiv, 970.

Reports of Societies.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION.

G. H. MONKS, M. D., SECRETARY.

REGULAR meeting at 19 Boylston Place, Wednesday, November 2, 1887, DR. J. COLLINS WARREN in the chair. In the absence of the Secretary, DR. H. W. CUSHING acted in that capacity. On motion of DR. BRADFORD, DR. WARREN was elected Chairman for the coming year.

After thanking the members for their kindness in re-electing him, DR. WARREN called for the first paper, which was

A CASE OF DISLOCATION OF THE THUMB REDUCED AFTER CUTTING DOWN UPON THE JOINT.[1]

by DR. J. W. ELLIOT. After reading his paper, Dr. Elliot said: When I did the operation I found the tendon of the long flexon wound about the head of the bone in such a way as to give the impression that this tendon was the principal obstacle to reduction. In point of fact, however, after I had slipped the tendon over the head of the bone, I could not reduce the dislocation, and I therefore concluded that the position of the long flexor tendon had little or nothing to do with the irreducibility, a fact which I verified by experimenting on the cadaver.

Dr. Elliot then presented the man on whom the operation had been done, and remarked that the use of strict antiseptics now enable the surgeon to explore at will and to open the joint if necessary; at all events to thoroughly see the condition of things before attempting to remedy it by some of the expedients recommended in the text-books, such as tenotomy or resection of the head of the bone.

DR. F. B. HARRINGTON then presented a boy who had suffered a similar dislocation of the thumb, and

[1] See page 625 of the Journal.

said: This case as often happens, presented itself about two weeks after Dr. Elliot's case. It differed from the latter only in the position of the tendon of the long flexor which lay to the radial side of the head of the metacarpal bone. This position of the tendon is very unusual, but it is possible on the cadaver to dislocate it to that side. The dislocation had occurred on the previous day and its reduction had been attempted outside the hospital. The phalanx rested upon the dorsum of the metacarpal bone and was parallel to it. All efforts, with and without ether, failed to reduce the dislocation. An incision was made over the head of the metacarpal bone which projected toward the palm and which seemed subcutaneous. After cutting down where you could see the joint it was still impossible to reduce. Finally, by passing a director under the external head of flexor brevis, and dragging this head over the head of the metacarpal bone, the bones slipped into position. Nothing but the skin and subcutaneous tissues had been cut by the operation. The wound healed by first intention. Within three weeks the boy was using the thumb and it has given him no trouble since. The motion is good, nearly perfect it might be said. There is still a little thickening in the region of the incision.

I would like to say a word or two about the anatomy of the metacarpo-phalangeal joint of the thumb. Dr. E. O. Otis[2] has recently written an interesting paper on the same dislocation in the fingers.

The ligaments of this joint of the thumb are the anterior, the two lateral and the posterior. The anterior or "glenoid" ligament resembles that of the fingers. It ruptures at the metacarpal attachment almost without exception. This makes a long flap which may get between the ends of the bones and prevent reduction as in the fingers. In this anterior ligament are the two sesamoid bones which are also connected with the two heads of insertion of the flexor brevis muscle. These two muscular heads are joined one by the abductor pollicis on one side, the other by the adductor pollicis on the other side. The phalangeal portion of the anterior ligament is made up of tough, almost cartilaginous tissue which is quite thick and strong. The lateral ligaments are also stout bands which are connected with the sesamoid bones and the anterior ligament. By means of these muscles and the lateral ligaments, which do not usually rupture, the flap of the anterior ligament is dragged and held down behind the head of the metacarpal bone.

It is frequently possible to reduce this dislocation by proper manipulation, occasionally, however, the most experienced fail. An operation is then necessary. Resection is a severe operation which leaves at best, an imperfect finger. The subcutaneous operation is blind, unsatisfactory and sometimes unsuccessful. Important tissues may be injured and permanent disability result. The following are directions given by Dr. J. E. Kelly,[3] for the use of the tenotomy knife in case of irreducible dislocation of the thumb. "If an intelligent trial of reduction by manipulation should fail, a subcutaneous operation upon the posterior surface might be adopted, which is rational, easy, and safe, and which should not be such a source of persistent weakness. To the outer side, of, or between the extensor tendons, a tenotome might be passed through the skin down to the anterior margin of the base of the phalanx and through the intersesamoid space, until it would reach the back of the metacarpal bone, upon which might be divided all the structures forming the anterior wall of the articula fossa. Thus the 'button-hole' slit would be extended at least by half-an-inch in the most advantageous direction, and should reduction be still impossible, the structures lying to the outer side of the head of bone might be divided, and, if still more freedom be desired, the subcutaneous incision could be converted into an open wound, when the internal boundary of the 'button-hole' could be reached from the most advantageous aspect. A hook or lever might be applied to the metacarpal head and retractors also would aid the readjustment, a loop of wire passed through the 'button-hole' should make direct traction backwards on the metacarpal head, while separating the lateral margins of the aperture."

This certainly does not suggest a perfectly simple operation. The point which I wish to make is, that with an irreducible dislocation of the thumb, the best procedure is to carefully dissect down to the dislocation on the palmar side, and to reduce without farther injury to the important structures of the joint. That this can be safely and successfully done, is shown by the cases presented to-night.

DR. OTIS said: I have been exceedingly interested in the report of these two cases, and the exhibition of the patients showing such perfect results. The reduction of a dislocation of the thumb or fingers — a dislocation upon the metacarpus — is not always the simple and easy thing which many authors make out, and to go through life with an irreducible dislocation of this joint is a grave misfortune.

These two cases illustrate one of the three causes generally given by authors which prevent the reduction of the dislocation of the thumb by manipulation, namely, the catching of the head of the metacarpal bone between the two heads of the short flexor. The other two causes are the interposition of the glenoid ligament, and the locking of the head of the metacarpal bone between the two lateral ligaments. I know of but one other reported case, that of Ranke's,[4] where a dissection was made on the palmar surface, as in these cases, for an irreducible dislocation of the thumb, and in this case the cause of the irreducibility was found to be the interposition of the glenoid ligament, which, as I have elsewhere shown, I believe to be generally if not always the cause of an irreducible dislocation of the fingers. In the case of the thumb, however, a new element comes in to prevent the reduction, namely, the two heads of the flexor brevis muscle. Previously, in irreducible dislocations either in the thumb or fingers, if operative interference has been attempted, it has been either a resection, or a groping about in the dark with a tenotome with no definite idea of what needed to be cut; not a clean dissection to discover the cause of the irreducibility, as in these cases.

In one of the cases of dislocation of the index-finger which I reported, some sort of an operation was attempted (the case having passed out of my hands prematurely), probably a subcutaneous cutting of something; the result, however, as I saw it some weeks after, was far from satisfactory, and there was

[2] Backward Dislocation of the Fingers upon the Metacarpus, by E. O. Otis, M.D., Boston Medical and Surgical Journal, September 2, 1886.

[3] Notes on Dislocation of the Thumb, J. E. Kelly, F.R.C.S.I., M.R.I.A., Dublin Journal of Medical Science, May, 1883.

[4] Berliner Klinische Wochenschrift, 1887.

but little motion in the joint. If a dissection had been made as in these two cases, or a subcutaneous section of the glenoid ligament as described in my paper, before referred to, probably the same happy result would have been obtained, as in these cases. I would like to ask Dr. Harrington if he saw anything of the glenoid ligament in his case?

Dr. Harrington: I did not. The opening I made was small. The phalanx was buried out of sight. The thing which I saw most markedly was the external head of the muscle.

Dr. Otis: In irreducible cases often, at least, with the thumb, and generally if not always with the fingers, the glenoid ligament is torn from its metacarpal attachment, reversed, and spread out over the head of metacarpal bone, forming an inseparable obstacle to the reduction, and all efforts made to this effect, even by backward flexion, only fasten the joint firmer, and there is no possibility of reduction except by operative means.

Dr. Warren illustrated the difficulties of reduction of this dislocation by thrusting his finger through a piece of paper and pushing before it a valve-like fragment. If, in the efforts at reduction, this flap turns in between the bones, it cannot be replaced by taxis and the dislocation can only be reduced by cutting down and pulling out this fragment from between the bones.

Dr. F. S. Watson then read a paper entitled

A COMPARISON OF GRADUAL DILATATION, DIVULSION, AND INTERNAL AND EXTERNAL URETHROTOMY IN THE TREATMENT OF URETHAL STRICTURE.[5]

Dr. Greenough said: I have listened to Dr. Watson's very complete *résumé* of the statistics and opinions of those best fitted to give evidence on this subject, with great interest. There is only one point to which I would like to refer, and that is, the almost total immunity from relapse, which is claimed by others, if not by him, in internal urethrotomy. I doubt very much whether internal urethrotomy, or any other operation, can be considered, in itself, as an absolute cure for stricture. We have in a urethral stricture a fibrous tissue which when divided, either by divulsion, or cutting, must be replaced by tissue of the same character. I cannot conceive of any operation which will replace the fibrous tissue of an urethral stricture, by healthy mucous membrane. We all of us see cases that have been operated on by internal urethrotomy, which have relapsed, although the operator may not be aware of it. The clear cut of internal urethrotomy probably produces a better result than the tearing of the tissues by divulsion, but I do not believe that any operation can promise a permanent result, without after-treatment. That a stricture can be operated on by internal urethrotomy, divulsion, or any other method, and go from the operating table permanently cured, I doubt, that is to say, unless the treatment by electrolysis of which we are to hear later, is proved to cause an actual absorption of the contractile tissue, which would of course, be a permanent cure.

Dr. Cabot said: I am very much interested in Dr. Watson's paper. It seems to me a very fair statement about the present state of our knowledge in regard to urethral strictures, so far as it applies to the pendulous urethra. In that part of the urethra the stricture almost always involves the mucous membrane to a certain degree, as well as the connective tissue between it and the corpus spongiosum. When the mucous membrane is thus involved and puckered in the stricture, it seems to me that the cutting operation is by far the best. It has very little danger; hæmorrhage is not of very serious importance, and is easily controlled. I have no doubt it often produces cures. That it is as curative as Dr. Otis believes, I think almost no other man would claim.

In regard to the treatment of deep strictures, I may say that I am not yet converted to the opinion expressed by Dr. Watson, and quoted as expressed by Keyes. It seems to me that there are a great many strictures in the deep urethra, for which the external urethrotomy seems an absurdly grave operation. It has happened to me — I have no doubt it has happened to every one operating by divulsion — to meet with a stricture so tight that it is with the greatest difficulty that the finest filiform bougie can be gotten through it, where, if we finally get a divulsing instrument in, the first wedge driven through the stricture goes through with perfect ease. It is extraordinary with what ease it goes, and immediately the stricture vanishes.

If you then pass sounds, perhaps four, five, or six sizes larger than the divulsing instrument, they meet with no resistance. In short the stricture consisted of a little fibrous cord, surrounding the urethra, which was broken by the divulsion, and done away with. In a case of that sort (and some of these cases have seemed before operation to be very tight, difficult structures), the divulsing operation is the best one. By subsequently passing large sounds the hope of a permanent result is very good.

One reason why divulsion has not had as good results as other operations, is that advocates of divulsion were not advocates of large sounds; whereas those operating by internal urethotomy were advocates of large sounds, and stretched the urethra during the process of healing. The old operations were followed by sounds up to about 12 English — absurdly inadequate, according to our present ideas. It happened to me the other day to see a urethra about twelve or fourteen days after divulsion. The patient died from purulent peritonitis, starting from some trouble about the gall-bladder, as Dr. Fitz established by post-mortem examination. The seat of the stricture was not torn in any way. The urethral mucous membrane was smooth, and apparently had not been lacerated in the least. The stricture had been in the peri-urethral tissue, and had been ruptured with so little injury to the mucous membrane that all traces had disappeared in fourteen days. That is the only case where I have had the opportunity of examining the urethra soon after divulsion. It did not seem to indicate that the damage is so serious in these cases as has been imagined. In these deep strictures in the softer parts, I don't think the tearing is so severe as has been represented.

In regard to the external urethrotomy, it seems to me that that is a first-rate operation, but somewhat serious for the milder strictures in the perineum. I have seen fistula follow the operation in one or two cases. In one case the fistula is a permanent one. It troubles the man very little. By crossing his legs he can pass water without leakage, although there is a decided opening into the urethra.

[5] See page 617 of the Journal.

In a case of perineal operation for division of a bar at the neck of the bladder, I have seen a persistent fistula for five or six months. That case has gone out of my observation, so that I cannot say that it existed longer. I think that the danger of fistula is somewhat greater than the gentleman advocating that operation (Dr. McBurney) stated.

DR. POST: To decide absolutely what is the best course to pursue can only be determined by knowing what course gives most lasting results. We have not at present the data to determine that point, perhaps we never shall have. But it does seem to me that in discussing the subject the matter of gradual dilatation is not given the importance that it ought to have. Whatever operative procedures we decide upon, there must be a very large number of strictures that must be treated by gradual dilatation, either because our patient is in such a condition physicially that we ourselves are unwilling to operate, or because he is so situated that he is unwilling to give up even a few days. And I am fully convinced in my own mind that a great many strictures do wonderfully well for a long series of years after they have been thoroughly dilated by gradual dilatation, by the use of bougies in the old-fashioned method. But the same thing must be said of gradual dilatation that has just been said in regard to divulsion. Not long ago the rule was laid down as a positive one that a dilatation that was carried up to No. 12 English was all-sufficient; that was the size of the urethra. If the patient is treated nowadays by gradual dilatation the same size of urethra should be attained by that method as is sought by internal urethrotomy or divulsion, and when it is carried up to that size, I am sure that the retraction, in favorable cases of course, is much longer in taking place — very much longer — than when the surgeon is satisfied with the size of No. 11 or 12 English.

I don't wish to be considered an advocate of gradual dilatation alone; I simply wish to say that it must be resorted to in the great number of cases, and it seems to me that there is something more to be said in its favor than the paper would seem to indicate. There will always be found a large number of cases that for some reason or other, must be treated by the other more distinctly operative methods, and in the choice of operative procedure, I am practically in accord with the reader.

DR. TILDEN: In looking over Reybard's first pamphlet upon the subject of internal urethrotomy, published in the year 1833, I found that a certain Monsieur Turquet, had once ventured to use a cutting instrument in the urethra for the cure of stricture, and in consequence, had been condemned by the Faculty of Medicine in Paris, as unworthy to practice medicine "*propter temeritutem imprudentiam et ignorantiam.*" The evidence upon the subject to-day as presented by Dr. Watson's paper, would, I think, acquit Monsieur Turquet of any such charge. My own experience with the operation has been comparatively slight, but so far as it goes it has been favorable. I have eighteen cases upon my books, two of which were operated upon by Dr. Morse. Of these cases, only four have been seen again at a long enough period after the operation, to justify any conclusion as to permanence of result. Of these four cases, two were seen two years after the operation, one four years and one five years afterwards. In one instance, two years after the operation there was found to be recontraction, in the other three cases there was no evidence of any recontraction whatever. In regard to strictures of the deep urethra, I have nearly always been able to get along very satisfactorily with gradual dilatation. I have been obliged to cut deep strictures in three instances, and one of these cases was the only one in which I have experienced any serious trouble. The patient was an old man, an unfavorable subject for any operation. He had enlarged prostate and small deep strictures of many years' standing. After the operation he had repeated chills, and rises of temperature accompanied by great prostration and by partial suppression of urine lasting thirty-six hours. He eventually recovered, however. In none of my cases has there ever been hæmorrhage to any extent, and only in my earlier cases has there been any chill or rise of temperature. During the last three years, and since I have washed out the urethra immediately after the operation with a solution of corrosive sublimate, there has been no rise of temperature in any of my cases. One or two words about the technique of the operation may not be out of place. The two most important conditions to be fulfilled in doing the operation in order to secure its best results are, *first*, to entirely divide the strictures which are cut, and, *secondly*, to so manage the wound made by the operation that it may heal with as little inflammation as possible. With regard to the first point, the common cause of early recontractions of stricture, after internal urethrotomy, is insufficient cutting, and Sir Henry Thompson has remarked that he had had often occasion to regret not cutting deeply enough, but never to regret cutting too deeply. The first thing to do then is to cut through the strictures. As to the second point, of course it is impossible that there should be no urethral inflammation at all after urethrotomy, but it should be restricted as much as possible, for this reason. The wound made by the operation, heals over from the edges and becomes covered with a thin supple layer of connective tissue, distinct from the tough connective tissue of which the stricture is formed. This thin layer of connective tissue is let into the strictured portion of the urethra like a "gore" so to speak, and in this way the calibre of the urethra is enlarged at the point of stricture. It is easy to see that if much inflammation attends the healing of the wound that a different and undesirable sort of cicatrix may result. If I remember aright, Dr. Shakespeare has examined, microscopically, this thin layer of connective tissue which results from the proper healing of the wound of the mucous membrane, made in urethrotomy, and has found that there is in it a large proportion of elastic fibres much larger than in cicatrices of the skin for instance. Any urethral discharge which may exist, should always be reduced to a minimum before operating, perfectly aseptic instruments should be used, and after the operation nothing should be introduced into the urethra, except the smooth conical steel sounds which are necessary to ensure a proper healing of the wound, and except the irrigator used to wash out the urethra with corrosive sublimate immediately after the operation, which I think is a good plan. With regard to divulsion, I have had no personal experience, but from what I know of the experience and opinion of others, I should prefer internal or external urethrotomy or gradual dilatation in any case to divulsion.

Dr. Newell: I should like to say in connection with this subject in the first place, that I think Dr. Watson's paper very interesting and valuable, because it shows that since the technique of this operation has been understood, it is clearly demonstrated that whatever its advantages may be, it is certainly not more dangerous than other operations. In the "German Surgery," which so far as I know, is the best surgical work extant to-day, the forty-ninth volume is entirely devoted to the subject of stricture. The point made there which shows the difference between gradual dilatation and all other treatments, is this: Any treatment of the urethra by divulsion or cutting adds a cicatrix to the already existing organized exudation of lymph. The more this has become organized the more dense the stricture is.

I do not exactly understand why, if, as advocates of gradual dilatation claim, you can bring your band of organized lymph up to the desired calibre, and produce more or less absorption by the passage of sounds, the stricture is not cured without the addition of a cicatrix. It seems to me that if you are going to add a cicatrix, the cutting operation is the proper way to do it.

Perhaps Dr. Watson can tell why it is that if you bring a stricture up to the proper calibre with dilatation, you cannot keep it there. I think Professor Dittel claims that no stricture is ever permanently cured. In about twenty years the contraction untreated recurs anyway. I think it necessary to follow the course of strictures twenty years before we are justified in saying that they are cured. If we divide the web of the fingers with a knife, every one knows that there is a wide separation permitted by such a wound, but we know equally well that it is an absolutely certain fact that in the course of time the fingers will come back to exactly the same place. I don't know how cicatricial tissue in one place, differs much from that in another.

Dr. Greenough: Dr. Newell has brought out exactly what I referred to in the few remarks I made at the opening. What Dr. Tilden said interested me very much, but I would like to ask him how we know that the cicatrix which is formed in the healing of the cut is thinner and less fibrous than the original cicatricial tissue.

Dr. Tilden: It has been shown by autopsies.

Dr. Greenough: As we all know, strictures, excepting traumatic ones, are the result of the healing of a granular condition of the urethral mucous membrane. Exactly the same condition is seen by the oculists in old cases of granular conjunctivitis, and also chronic inflammatory conditions of the lachrymal ducts, where the same tendency to contract is seen. This tissue is, I believe, the same that we find in cirrhosis of the liver, and elsewhere as the result of chronic inflammatory processes, in cicatrices of the cutis, etc. When this fibrous tissue in the urethra is cut, there are only two ways in which the lesion can heal: either by first intention, that is, coming together and uniting, practically reproducing the condition previous to the operation, or by the process of granulation, which must result in a fibrous tissue of the same character, namely, one whose tendency is to contract.

In the remarks I have made, I have not meant to speak against the operation of internal urethrotomy, but only against the claim that this operation is in itself a radical cure; that a man can be cut, and that is an end of his stricture. That such has not been the results in many cases, I know from personal experience. I believe that after-treatment, in the way of keeping the urethra dilated is necessary to prevent a relapse. The same thing is true, and perhaps even more so, after the treatment by gradual dilatation, which has, however, the advantage of comparative safety.

A mortality of one or two per cent., may not seem great to the hospital surgeon, but take the case of a man in private practice, who is able to attend to his business, and perfectly well, with the exception of a slight gleet; to kill that man would be a serious matter.

Dr. E. W. Cushing: I would like to ask what the mortality is supposed to be, of internal urethrotomy, in private practice. It seems to me that we are to distinguish a little between what is proper to do in a hospital, in cases who are suffering and are going away, perhaps to sea, and other cases, such as Dr. Greenough refers to, in private practice. I think most men would hesitate, if they were comfortably getting along, if any one were to tell them squarely that there is a mortality of one or two per cent. in stricture operations. I would like to know what the danger is in private practice, as distinguished from those old cases which bring up the mortality.

Dr. Watson: In the figures that I quoted, in some of the instances, I believe those of Otis, Weir, Bull, McBurney, in Dr. Tilden's cases and my own, and a number of others, the operation has been largely confined to private patients. I have never operated upon a patient without telling him he had two chances to die in a hundred. Some take it; some do not. Those that do, I operate upon, and those that don't, I dilate if I can.

Dr. Tilden: I would like to ask Dr. Watson what difference there is between the mortality of the French, English, and American cases.

Dr. Watson: The American cases show the better results in the majority of instances. It is not always so. Sir Henry Thompson has 340 cases, with six deaths. Otis says he has done 600 without a death. French cases have a higher mortality than any others.

Dr. Tilden: Dr. Watson's answer to my question brings out a point which is worthy of notice. The French have largely used a urethrotome which cuts upon the floor of the urethra, and such an incision is undesirable because in this way more spongy tissue is opened than by an upward or even by a lateral cut. I think that the practice of cutting upon the floor adds distinctly to the danger of the operation and that if the French statistics be omitted, its mortality would sink to a very low rate. The English use a bulb-pointed instrument, a modification of Civiales's urethrotome with which they cut in whichever direction they please. One advantage of the Otis instrument is that with it one cuts only upon the roof and in suitable cases, with proper care the operation is attended with as little danger as any operation I know.

Dr. Greenough: My own Maisonneuve instrument cuts upon the roof.

Dr. Tilden: All that I have seen cut upon the floor. My own did, and I had it changed.

Dr. Greenough: That would of course be a very serious objection.

DR. TILDEN: When I spoke of the operation to Ultzmann, he complained of the mortality of the operation, and showed me several French plates of enormous cuts upon the floor of the urethra.

DR. WARREN: In estimating the prognosis of these operations, it is well to remember that the cutting operation was in vogue fifty years ago, as the old instruments abundantly testify. The great advance of modern treatment lies in the degrees of dilatation and it is therefore probable that the improved results are due to this element rather than to the choice of a particular method of dividing the stricture.

DR. G. W. ALLEN then reported

FOUR CASES OF URETHRAL STRICTURE TREATED BY ELECTROLYSIS.[6]

DR. TILDEN said: My experience of electrolysis is limited to one case. A very bad urethritis resulted, and, so far as I know, no benefit whatever was derived from the use of the electrolysis.

DR. WATSON: I had one patient come to me who had had electrolysis performed — not by the gentlemen who have just spoken — where there was precisely the same appearance as that Dr. Tilden describes, and he had a chill in addition. Another one came from Dr. Allen. It is a rather significant fact that no practitioner or specialist of eminence has adopted this treatment after trial.

DR. KNAPP: I should think that Dr. Tilden's case of urethritis might be explained by the electrode. It seems to me that there is opportunity in these electrodes, which are made of hard rubber and metal? for dirt and germs to collect. It would be the best thing in the world to set up a urethritis.

DR. TILDEN: The electrode was brand new and had never been used before.

DR. PARKS: I believe nothing has been said about a method of rapid, gradual dilatation. Prof. Gross used to practice that method, but I don't know whether it is used at all now.

DR. WATSON: It may be stated that rapid, gradual dilatation is in the majority of cases, a divulsion. If the stricture is not divulsed, the method remains dilatation, only that it is accomplished at one sitting; this is sometimes possible, in strictures that yield readily without being split. Some operators habitually perform divulsion in this way. I have seen the late Dr. Charles Homans and Dr. Fifield do the operation a good many times; and have occasionally done it myself.

What Dr. Newell said seemed to me to be very pertinent about the length of time, although I don't see why twenty years should be set, because that is an arbitrary limit. Nevertheless, until after a long time no criterion can be set up. In regard to the question of why you cannot produce permanent cures by dilatation, there are two answers: one is that so far as is known, except in the beginning strictures, no absorption of connective tissue takes place under dilatation; and practical experience is that there are very few people who claim cures, no matter how far the dilatation is carried or how long continued.

DR. NEWELL: I said twenty years, because it is claimed that after twenty years there have been no untreated cases among those observed, that have not returned.

DR. WATSON: In regard to the remark of Dr. Greenough about scars, I think there are one or two points to be considered. One is that so far as we know a linear cut in the urethra, *per se*, does not produce a stricture. That point has been experimentally tried, especially with dogs, and that result discovered, so far as animals are concerned. We sometimes see it also in exploration of the bladder by external urethrotomy, for example, in the human subject.

In regard to dilatation, perhaps Dr. Post misunderstood me a little. The first quarter of the paper was wholly devoted to dilatation. My experience is larger in that than in any other procedure; certainly five times as large. I do not wish to be misunderstood as not advocating dilatation where it is the only operation you have the choice of performing. I would advocate it always in the deep urethra, unless the stricture is intractable to dilatation, or the patient shows constitutional disturbance. Dr. Cabot said that he thought external urethrotomy should not be done for mild strictures in the deep urethra. I do not wish to imply that it should be so done, but merely offer the suggestion it might be done with better results if it were performed earlier, than is the custom, and not reserved for the emergency or desperate cases alone.

DR. NEWELL showed a pair of

ANTISEPTIC HÆMOSTATIC FORCEPS,

made by Codman & Shurtleff. They had been constructed with special reference to cleanliness and were perfectly smooth throughout. The catch, which is that so much used on purses, can also be attached to ordinary forceps.

[6] See page 621 of the Journal.

Recent Literature.

The Curability of Insanity and the Individualized Treatment of the Insane. By JOHN S. BUTLER, M.D., Hartford, Conn. New York and London: G. P. Putnam's Sons. 1887.

This little book of forty-eight pages by one of the oldest insane-hospital superintendents living, is well worth reading as a record of more than fifty years experience in the care of the insane.

Its tone is cheerful and hopeful, and it should be read by the gloomy misanthropes who believe that insanity is practically an incurable disease.

A number of interesting cases are told in detail in the foot-notes.

The Modern Treatment of Diseases of the Heart. Part II. Diseases of the Aorta. By PROF. DUJARDIN-BEAUMETZ. Translated from the Fourth French edition by E. P. Hurd, M.D. Small quarto. pp. 181, 316. Detroit: George S. Davis. 1887.

This neat little volume — the fourth in the Physician's Leisure Library for the present year — is devoted to the treatment of diseases of the aorta, or rather to the chief disease of the aorta — aneurism. The writer begins by considering the treatment formerly considered the only one — Valsalva's method of starvation — and then considers the various methods of treatment that have risen since, compression, injections of ergotine, ice, external galvanization, acetate of lead internally, and iodide of potassium. Of these the only methods that have given good results are compression in abdominal aneurism, and ice and

iodide of potassium, and the results of treatment, even with these, are far from encouraging. In the second chapter the writer speaks of the various operative measures to procure coagulation in the sac, such as acupuncture, and the insertion of wire or horse-hair, and then comes to the chief method of treatment, to which the rest of the work is devoted, the production of coagula in the sac by electrolysis. It is too early to decide whether aneurism of the aorta can be cured by electrolysis, no case has yet been reported, but this treatment is certainly the most promising. Other forms of treatment have thus far proved of little avail; electrolysis has been shown to produce coagula in the sac, in certain cases it has succeeded in relieving for a time the distressing and urgent symptoms, and probably in prolonging life. More is to be hoped from it than from any other form of treatment now in vogue, and this little volume will be of service in widening our knowledge as to its use. It is needless to say that the translation is well done, and Dr. Hurd has also done the profession a service in adding a number of valuable notes.

The Principles of Antiseptic Methods Applied to Obstetric Practice. By DR. PAUL BAR. Translated by Henry D. Fry, M.D. 8vo. pp. 175. Philadelphia: P. Blakiston, Son & Co. 1887.

This book deserves to be read by all who practice obstetrics, especially by those ultra-conservatives who meet every advocate of antisepticism with the query, "What use have we for your antiseptic methods? We do not meet with puerperal fever; our patients always recover."

The author has traversed the subject very fully; and the translator, by occasional notes, has made some valuable additions from American authorities. The relation of the germ theory to the puerperium is carefully considered, the relative value of the various antiseptic agents is discussed in detail, and there is a convincing chapter on the influence of antiseptics on puerperal epidemics in European hospitals. After the chapters on hygiene of the puerperium and the application of antisepsis during labor and the lying-in period, there follow chapters on antisepsis in catheterization, rupture of the uterus, and in the Cæsarean operation. In an appendix the treatment of the fœtal umbilicus and the prophylaxis of ophthalmia neonatorum receive satisfactory consideration. Throughout the book there are profuse references to authorities, yet the reader is never left in doubt as to the opinions of the author. Without prejudice, and without indifference to the labors of others, one may justly say that this work adds still another stone to the monument of Semmelweiss.

—Dr. Blanc has, according to the *London Medical Record*, carried out a hundred observations on the influence of ergotine on involution of the uterus. The preparation employed was the Yvon solution of ergotine injected hypodermically, and the results were controlled by both external and internal measurements. During the ten days following delivery in healthy women after normal labor, he found that the process of involution did not take place more rapidly in the women to whom ergotine was administered than in those left to nature, and concludes that ergotine is without effect on uterine involution.

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ANNUS MEDICUS, MDCCCLXXXVII.

EPIDEMIOLOGY.

AT the beginning of the year cholera existed in South America, having been brought by ship from Italy. The disease was most prevalent at Rosario, a sea-port some two hundred miles from Buenos Ayres. It also was present in various parts of Austria-Hungary, in the earlier months of the year, but remained quiescent until the last of March, when it made its reappearance to a moderate degree at Buda-Pesth.

An outbreak of cholera appeared in the spring at Tonquin, which was promptly met by the French sanitary authorities, and which did not affect any but the native population, and these not to an alarming extent after the first. At Peshawur, in India, there were three hundred deaths from cholera in July. In northern India the disease raged extensively, there being seventy thousand deaths (one per cent. of the population), in the north-western provinces in June and July.

It is, however, in Southern Europe that its progress and history have, during the year, chiefly attracted the attention of American physicians. Here cholera became epidemic to a mild degree in March, the centre of the disease being for three months or more the eastern coast of Sicily. The town of Catania had up to July 1st, about two hundred cases with one hundred and forty deaths. Some cases also occurred in Messina and other towns, and also in the island of Sardinia. Early in July it broke out at Rocella, in Calabria, having, probably, been conveyed thither from Messina, or possibly Sardinia.

After the first of July the disease increased in frequency in the Sicilian towns, still having its maximum of violence at Catania. Early in August, it appeared at Malta and at Resina, in the Bay of Naples, also gradually increasing in a number of towns on the Calabrian coast. Numerous cases appeared at Naples, and in the province of Capua. September 4th, two cases were reported at Rome.

During September, the disease increased in southern Italy and Sicily, not only in the towns previously affected, but sporadically, here and there, including Rome. At Naples, the deaths in the middle of September, averaged five or six a day. In Sicily the increase was greater; at Messina the deaths averaged fifty-five a day. The type of the disease at Messina was fulminant, death sometimes occurring within an hour of the attack. From about the middle of October the disease rapidly declined.

September 23d, the Steamship *Alesia* of the Fabian line, from Marseilles, arrived at New York with eight cases of cholera aboard. These were doubtless taken on at Naples, among three hundred passengers who embarked there, and two of whom were sick at the time of embarking. A third case developed September 13th, four died on the voyage. The passengers and crew were quarantined at Hoffmann's Island, and though fifteen or more patients died there, the disease did not obtain any foothold. Soon after the *Alesia*, the *Britannia* and the *Independente*, arrived, the former bringing actual, and the latter suspicious cases, but the passengers of the latter were but briefly detained and those of the *Britannia* were allowed to come up to the upper quarantine; yet, despite these facts, and the unprepared state in which the quarantine station was found by the emergency of the *Alesia*, the disease was stopped on the threshold, and our greatest danger during the year from Asiatic cholera passed over, leaving us unscathed.

Yellow fever appeared at Key West, Florida, in June, there being thirty-one cases with eleven deaths in the first eighteen days of that month. On the 15th of July one case occurred at Egmont Key, Florida, a refuge station, In August and September, the focus of the disease shifted to Tampa, where in the ten days, October 14th to October 24th, one hundred new cases developed with fifteen deaths. The United States Revenue Hospital Bureau established at Tampa a hospital and brought thither a number of acclimated nurses from Savannah. During the last weeks the disease has practically died out.

Scarlet fever has been specially prevalent in Boston and vicinity during the last two or three months of the year, the number of deaths from this cause in Boston, rising some weeks to seventeen or more, out of totals of reported cases amounting to seventy and over. The Boston Board of Health has on this account adopted the rule of fixing a red card of warning to all houses in which cases of the disease exist.

The College of Physicians of Philadelphia celebrated January 2d, the centennial anniversary of its oganization, with addresses by Dr. S. Weir Mitchell, President of the College and Dr. DaCosta, a banquet, and the bestowal of honorary membership on some of the numerous guests who were present from other cities.

Among the cases appealing to the hearts of physicians as well as to their professional interest, has been that of the Crown Prince, Frederick William, of Germany. About a year ago the Prince began to suffer from hoarseness, and in March his physician discovered on the left vocal cord a sessile warty growth which was touched with the electro-cautery and reduced in size. It recurred, and May 21st, Dr. Morell Mackenzie, of London, excised a portion of it, which was examined by Virchow and pronounced a pachydermia verrucosa and not of cancerous nature. Further portions of the growth were removed by Dr. Mackenzie at subsequent times, and the prognosis given was good, the condition of the patient improving as the pieces of the growth were removed, and the galvano-cautery was subsequently applied. During the summer the patient visited England, and in the Scottish Highlands, after the subsidence of the congestion left after the operation, regained voice and spirits, though there remained a tendency to catarrhal congestion and relaxation. There was slight but fugitive thickening of the posterior end of the left vocal cord once or twice. September 14th a thickening three by five millimetres in dimension was seen, one-half inch below the centre of the left vocal cord, and not as will be noted, at the site of the original tumor. This ominous growth has continued, on the whole, to increase, and November 3d, it was a centimeter in diameter and had ulcerated. The unfavorable result of the clinical history, of course outweighs the verdict of the earlier pathological examination, (which, it should be said, was made upon a very small bit of tissue), and the doom of the patient seems to be sealed.

The Hydrophobia Commission appointed by the British Government to investigate the work and claims of Pasteur rendered their report early in the summer, after a delay commensurate with the magnitude of their labors. Three of the members, Sir Henry Roscoe, Dr. Burdon Sanderson, and Dr. Lauder Brunton, visited Paris, and a fourth, Mr. Victor Horseley, conducted experiments with virus brought back by these three, while the remaining four Sirs James Paget, Joseph Lister, and Drs. Quain and Fleming, made up their opinion on the evidence collected and presented by the rest. The report rendered was favorable to the claims of Pasteur, and was to the effect that inoculation with the attenuated virus of rabies confers an immunity from the disease; it further denies that Pasteur's inoculations have been the cause of death in those cases where there has been an unfavorable result. Meantime, there has been in the aggregate a considerable number of deaths after Pasteur's inoculations, though that proportion is small, *provided* all the persons inoculated would otherwise have had rabies. On that *proviso* hangs, as before, the whole question.

First in point of time and of interest, if not of value, among the therapeutic innovations of the year, came the Bergeon treatment of chronic lung diseases by the rectal injection of gases, notably sulphuretted hydrogen. Announced by its discoverer at the close of 1886, its trial in this country began with the new year. Welcomed, as is everything that gives

any promise of immunity from so grave a disease as phthisis, it was tried pretty generally, only to disappoint. Some trifling amelioration of symptoms, such as excessive expectoration, harassing cough, and occasionally a slight gain in flesh, were observed in a few cases, but the bacilli neither disappeared nor diminished sensibly in numbers, and the fatal march of the disease remained in general unchecked.

Pneumatic differentiation by the aid of the cabinet, while less heard of during the year than the Bergeon treatment, has survived the downfall of the latter treatment, and seems to have held its own as, at times, a valuable aid in treating early cases of phthisis when change of climate is unavailable.

Our French brethren have been playing with hypnotism to a very considerable degree. It is an edged tool which in non-medical hands and possibly even when controlled by professional men, is capable of doing mischief. The performances with hysteric women at the Salpêtrière are not calculated to inspire the therapeutist with hope, though it is claimed that attacks of hysteria have been by this agency postponed for months. Whether the remedy is better than the disease, is not quite clear. Just at present the craze is taking the form of "suggestion" of therapeutic aid to hypnotized patients, though the application to the body of corked bottles containing various drugs, or no drugs at all. The government has very properly restricted the position of hypnotism outside of the medical profession, and there may be those who think it would not have been amiss to extend the restriction a little further.

One positive therapeutic gain of the year is the discovery of the analgesic effects of the antithermics, antipyrine and antifebrin, in neuralgic and other pains, where they are often found to replace morphia, without the unpleasant effects of that drug.

Of other pharmaceutical novelties of the year we may refer to saccharine, a compound of certainly great sweetening power, whose chemical name is equally strong, namely, anhydroörthosulphamidobenzoic acid. Gleditschine, or stenocarpine, heralded as of powers superior to cocaine, obtained considerable attention at its first presentation to the profession, but was very soon discovered to be an arrant fraud, being itself nothing more nor less than a solution with an appropriate preservative of cocaine hydrochloride.

The Medical Congress, begotten of the American Medical profession, but "fathered" by the American Medical Association, after a stormy gestation of three years, threatened often with abortion, came to the birth last September. The 2,700 enrolled visitors, *ex facto* and *ex scripto*; the 150 visitors brought over the sea; the long lists of vice-presidents and the vacant chairs reserved for them; the papers, good and bad; the scant social cheer of a capital out of season; and lastly the flow of champagne, certified on oath to have been Mumm's own, and to have been bought with a price — are they not all written in the pages of the remittent daily Medical Journal?

It was a large meeting; and if hardly an "international episode," it yet reflects credit on the perseverance of the gentlemen of the South and West who organized and chiefly attended it.

Of the stated established lectures on medical subjects to which readers turn for the latest and soundest expression of medical science on the topics of which they treat, may be mentioned the following:

The Harveian Lectures on "Cancer of the Uterus," by J. Williams, M.D., London, F.R.C.P.; the Lettsonian Lectures on "Some of the Mental Affections of Childhood and Youth," by J. Langdon Down, M. D., London, F.R.C.S.; the Erasmus Wilson Lectures on "Evolution in Pathology," by J. Bland Sutton, F.R.C.S.; the Hunterian Oration, delivered before the Royal College of Surgeons of England, February 14th, by William S. Savory, F.R.S.; the Gulstonian Lectures on "The Nature of Fever," delivered at the Royal College of Physicians by D. Macalister, M.A., M.D., F.R.C.P.; the Croonian Lectures on "The Pulse," delivered at the Royal College of Physicians by W. H. Broadbent, M.D. F.R.C.P.; the Lumleian Lectures on "The Pathology of Intra-uterine Death," delivered at the Royal College of Physicians by W. O. Priestly M.D., F.R.C.P., LL.D.; the Cavendish Lecture on "A Speedy and sometimes Successful Method of Treating Hay Fever," delivered by Sir Andrew Clark, M.D., F.R.S.; the Bradshawe Lecture on "Pneumothorax," delivered at the Royal College of Physicians by Samuel West, M.D., F.R.C.P.; the Bowman Lecture on "The Relation of Ophthalmic Disease to Certain Normal and Pathological Conditions of the Sexual Organs," delivered before the British Ophthalmological Society by Henry Power, M. D., London, F.R.C.S.; the Morton Lecture on "Cancer and Cancerous Diseases," given at the Royal College of Surgeons of England by Sir James Paget, F.R.C.S. The first course of the Middleton-Goldsmith Lectures under the auspices of the New York Pathological Society was given by Dr. M. Allen Starr, "On Multiple Neuritis and its Relations to Peripheral Neuroses." [These lectures were published in the JOURNAL].

Among the national medical gatherings of importance during the year, we note the following:

The Medical Society of the State of New York held its eighty-first annual meeting at Albany, February 1st to 3d; the Sixth Annual German Medical Congress was held at Wiesbaden, April 13th to 16th, under the presidency of Professor Leyden, of Berlin; the Sixteenth Congress of German Surgeons met at Berlin, April 13th to 16th, Prof. von Volkmann presiding; the American Surgical Association held its annual meeting at Washington, May 11th to 14th; the American Association of Genito-Urinary Surgeons met for the first time at Lakewood, N. J., May 17th and 18th; the American Laryngological Society held its ninth annual meeting at New York, May 26th to 28th; the American Climatological Society

had its fourth annual meeting at Baltimore, May 31st and June 1st; the American Medical Association held its thirty-eighth annual session at Chicago, June 7th to 10th; the second annual meeting of the Association of American Physicians was held at Washington, June 2d and 3d; the thirty-sixth annual meeting of the American Association for the Advancement of Science was held at New York, August 10th to 16th; the National Orthopædic Association met for the first time in New York, early in July; the American Otological Society held its twentieth annual meeting at New London, Conn., July 9th; the American Ophthalmological Society held its twenty-third annual meeting at New London, July 20th and 21st; the American Neurological Association held its thirteenth annual meeting at Long Branch, July 20th and 21st; the fifty-fifth annual meeting of the British Medical Association was held at Dublin, August 2d to 5th, Dr. Withers Moore presiding; the eleventh annual meeting of the American Dermatological Society occurred at Baltimore, August 31st to September 2d; the Ninth International Medical Congress met at Washington, September 5th to 10th; the American Gynæcological Society held its twelfth annual meeting in New York, September 13th to 15th; the German Congress of Physicians and Surgeons met September 20th to 22d: one of its most important features was the address by Virchow on "Transformismus"; the Sixth International Congress of Hygiene and Dermography met at Vienna in the latter part of September. The importance of this meeting demands for it a word of further mention. The attendance was about 2,400, and the meeting was presided over by the Crown Prince Rudolph, of Austria. Professor Brouardel read a paper on "The Propagation of Typhoid Fever"; Professor Pettenkofer on "The Teaching of Hygiene in the Public Schools and Universities." In a notable discussion on "Cholera and Quarantine," the English delegates, with Pettenkofer, and notably an Italian, Dr. Mosso, of Turin, maintained strongly the uselessness of quarantine, and the importance of putting sole trust in sanitary reform. The seventh meeting of the Congress occurs in London in 1891.

GENERAL NECROLOGY.

While death has been as busy as ever during the year, it is somewhat remarkable that his hand has fallen with special force upon the medical profession in Italy. No other country has suffered so heavy a loss, proportionally to its size, of men of brilliant achievement in this branch of science.

We present briefly a list of the most prominent medical men who have died during the year.

William Perry, M.D., the oldest living graduate of Harvard College, a member of the class of 1811, long a successful practitioner in Exeter, N. H., died January 11, aged ninety-eight years and twenty-one days.

Nicola Gasparri, aged thirty-three, a medical officer of prominence in the Italian army, was killed January 26, while fighting in the ranks in a most desperate encounter at Dogali, between five hundred Italian troops and many thousand Abyssinians. The fight was continued till of the five hundred Italians only eleven remained unwounded.

Francesco Magni, probably the leading ophthalmologist of Italy, died at San Remo, February 2, at the age of fifty-nine. He was made director of the anatomical school at Florence in 1859, and a year later was called to the chair of ophthalmic surgery at Bologne. He subsequently visited the United States, and made a brilliant reputation in many of the northern cities for his diagnostic and operative skill. He was Senator of the Kingdom of Italy 1876, and politically was a Liberal.

Prof. Carl Schroeder, of Berlin, died February 7, at at the age of forty-nine, after a two weeks' illness, from brain fever. He was one of the leading gynæcologists of Europe, and his hospital for women at Berlin attracted crowds of students and patients from all parts of the world. He had written numerous works on this subject, among them his Manual of "Midwifery, including the Pathology of Pregnancy and the Puerperal State," which has been translated into English and widely read. His early death was attributed to overwork.

Jules Béclard, dean of the Faculty of Medicine of Paris, in which he succeeded Professor Vulpian in 1881, died February 16, at the age of sixty-nine. He was author of the "*Traité de Physiologie Humaine*," which was for thirty years the standard work on that subject in France, and which reached seven editions. In 1844 he defeated Claude Bernard in the competition for the assistant professorship of anatomy and physiology, and in 1871, on the death of Longet, became professor of physiology.

Dr. W. S. Little, an eminent Philadelphia oculist, died February 18.

Prof. T. Gaillard, of Paris, a prominent French gynæcologist and obstetrician, died early in the year.

Alexander Porphyryvich Borodin, Professor of Organic Chemistry in the Military Medical Academy of St. Petersburg, died February 28, aged fifty-three.

Luigi Laurenzi, head of the Ospedale della Consolazione in Rome, and a surgeon of renown, died suddenly, in the prime of life, April 5.

Pietro Cipriani, of Florence, eminent in several departments of medicine, and Senator of the Kingdom, died April 5, aged seventy-nine. He was the first occupant of the chair of cutaneous diseases, established in Florence in 1840, and afterward was professor of clinical medicine, succeeding Bufalini.

Dr. James S. Jewell, of Chicago, a founder of the American Neurological Association, Professor of Nervous and Mental Diseases in the Chicago Medical College since 1872, and originator, two years later, of the *Journal of Nervous and Mental Diseases*, died April 18, aged fifty.

Nathaniel Lieberkühn, son of the discoverer of the "follicle," and himself professor of anatomy in Marburg, and an industrious student in subjects connected with development, died in April, aged sixty-five.

Alfred Meadows, M.D., F.R.C.P., at the time of his death physician-accoucheur to St. Mary's Hospital, and previously the holder of many obstetrical positions in connection with other London hospitals, died April 19, aged fifty-five.

Leon Gosselin, surgeon to the Paris Hospitals, professor of surgical pathology (1858), professor of clinical surgery (succeeding Velpeau in 1867), member of the Academy of Sciences, and president of the same, author of many surgical works, perhaps most prominent among them the "Clinique de l'Hôpital de la Charité," died April 29, aged over seventy.

E. T. Caswell, M.D., one of the surgeons to the Rhode Island Hospital, and a well-known practitioner of Providence, R. I., died April 17, aged fifty-four years.

Wilson Fox, M.D., F.R.C.P.L., F.R.S., died in London, May 3, aged fifty-six. He had been a student under Virchow, and in 1861, at the recommendation of the latter, was made Professor of Pathological anatomy in the University College of London. Six years later he became professor of clinical medicine. He was an industrious student and writer on various subjects connected with these departments, especially upon tuberculosis. He wrote the articles in Reynolds's "System of Medicine," on Diseases of the Stomach, and on Pneumonia.

Professor Vulpian, the noted French physiologist, died May 18, aged sixty. Known in his own country as a lecturer, and as dean of the Faculty of Medicine, his chief fame on this side of the water rested upon his writings, which covered almost all the subjects of physiology, and ended with his work, in two volumes, on the "Diseases of the Nervous System."

Dr. E. Darwin Hudson, of New York, formerly Professor of Medicine in the Woman's College of New York, and later a professor of the New York polyclinic, an active worker in medical science, author of a standard work on "Physical Diagnosis," died May 10, aged forty-four.

Karl Friedländer, pathologist, of Berlin, died in May, at the early age of thirty-nine. While he had never held exalted rank in the academic scale, being made professor only a few months before his death, and that without any official chair, he stood in the foremost rank of living pathologists. He discovered in 1882 a coccus which he claimed to be pathognomonic of pneumonia, and which is known to bacteriologists by his name.

Dr. Alexander Gordon, for many years the leading surgeon of Belfast and the north of Ireland, died July 28, aged sixty-nine. He was made professor of surgery at the opening of Queens College, Belfast, in 1849, and held that chair till shortly before his death.

Dr. Andrew Fergus, of Glasgow, a crown representative on the general medical council, President of the Glasgow Philosophical Society, and a practitioner of large experience and repute, died in July, aged sixty-five.

Dr. Gustavus Charles Philip Murray, a leading practitioner of Edinburgh, an original member of the London Obstetrical Society, a voluminous writer on obstetrical subjects, and a visitant to numerous hospitals for diseases of women, died August 7, aged fifty-six.

Adolph Pansch, Professor Extraordinary in the University of Kiel, author of many anatomical observations, a scientific member of the second German expedition to the North Pole (1869-70), was drowned at Kiel, August 14, at the age of forty-six.

Alonzo Clark, M.D., L.L.D., Professor of Physiology and Practical Medicine in the College of Physicians and Surgeons of New York since 1855, died September 13, aged eighty. He had previously held other professional chairs, the first being that of pathology and materia medica in the University of Vermont Medical School. His chief fame was as teacher and consultant rather than as author. He was connected with Bellevue, the New York, and other hospitals, was president of the Medical Society of the State of New York in 1853, and later of the New York Academy of Medicine.

Richard Quain, M.D., F.R.C.S., one of the founders of the London Pathological Society, the editor of Quain's "Dictionary of Medicine," and a well-known writer on medical subjects, died Sept. 16, aged seventy-one. He bequeathed almost the whole of his fortune, amounting to $375,000 to University College, London, "for the promotion . . . of general education in modern languages (especially the English language and composition in that language), and in natural science."

Dr. Gaetano Pini, of Milan, of special prominence as one of the early cremationists, his society of 1876 having been followed by thirty-six others in Italy in the face of bitter opposition from the Roman church, died September 25, aged forty-one. He was also the founder of the Royal Italian Society of Hygiene.

Dr. J. C. Hutchinson, of Brooklyn, long and prominently connected with the Brooklyn Hospital, died in October.

Dr. Jas. A. Gray, of Atlanta, editor of the *Atlanta Medical and Surgical Journal*, died September 7, aged thirty-seven.

Dr. James Knight, Surgeon-in-chief of the Hospital for the Relief of the Ruptured and Crippled in New York, died in October, aged seventy-seven.

Dr. Wm. M. Chamberlain, of New York, of the staff of Charity Hospital, a specialist in the diseases of women, died October 31, aged sixty-one.

Leon Bassereau died at Paris, November 1, at the age of seventy-seven. In 1852 he published the work which definitely settled the fact that there existed a syphilitic and a non-syphilitic chancre. By repeated confrontations of infected and infecting individuals, he was able to formulate the law "That when an individual is attacked by a chancre which is followed by constitutional symptoms, generalization of symptoms is due to the fact that the individual from whom the

infection came was the victim of syphilis." Bassereau was thus the author of the doctrine of dualism.

Dr. Thomas R. Varick, of Jersey City, Visiting Surgeon of St. Francis Hospital, and one of the leading surgeons of New Jersey, died November 23.

Dr. Middleton Goldsmith, of Rutland, Vt., the founder of the Pathological and the Middleton-Goldsmith Lectures, in New York, died November 26, aged sixty-nine. He had been dean of the Kentucky School of Medicine at Louisville, and served as brigade-surgeon in the war. He was deeply interested as might be judged from the foundations above referred to, in the progress of medical science. Shortly before his death, he presented his library to the New York Academy of Medicine.

Sir William R. E. Smart, K.C.B., died on December 2, at the age of seventy. He joined the Royal Navy in 1841. When the Russian war began, and the siege of Sebastopol was determined on, his ship was converted temporarily into a hospital until huts could be erected on shore for the reception of the sick and wounded, who were placed in charge of Dr. Smart. The admirable efficiency of his arrangements, and the zeal, energy, and humanity he invariably displayed in the duties of the hospital, whither all the worst cases were sent from the front, were soon recognized by the eminent naval officers in command, and on their recommendation he obtained from Lord Raglan the rank and privileges of a first-class Staff Army Surgeon. He was an active member of the Epidemiological Society.

Professor Charles Lauger, of Vienna, died on December 8. He was born in 1819, took his degree of M.D. at the University of Prague, was for a time an assistant of Professor Hyrtl, and when that distinguished anatomist died, was elected to the professorship.

Sir George Burrows, Bart., M.D., L.L.D., (Hon.), Cantab., D.C.L., Oxon., was born in 1801. He was a student, and later the son-in-law of Abernethy, and studied under Breschet and Scarpa. He had been physician to St. Bartholemew's Hospital, and had been lecturer on Medical Jurisprudence, and later, in conjunction with Dr. Latham, lecturer on Medicine. In 1862 he was President of the British Medical Association. In 1873 on the death of Sir Henry Holland, he became physician in ordinary to the queen. In 1871 he was elected President of the Royal College of Physicians, holding the office for four years.

NECROLOGY OF THE MASSACHUSETTS MEDICAL SOCIETY, 1887.

Preston Marshall Chase, of Danvers, died January 4, aged fifty-nine.

William Alexander Gordon, of New Bedford, died January 14, aged seventy-eight.

Jones Franklin Wakefield, of Everett, died January 14, aged sixty-two.

Joseph Thomas Odiorne West, of Princeton, died January 28, aged sixty-three.

Silas Emlyn Stone, of Walpole, died January 29, aged forty-eight.

Anthony Bernard Magee, of Lawrence, died January 31, aged thirty-five.

Jonas Augustus Marshall, of Fitchburg, died February 25, aged eighty-six.

John Beveridge Fulton, of East Boston, died March 19, aged fifty-two.

Ashman Hinckley Taylor, of Shelburne Falls, died April 13, aged sixty-four.

John Sydenham Flint, of Roxbury, died April 16, aged sixty-three.

Joshua Vincent Smith, of Melrose, died April 18, aged forty-one.

Gustavus Percival Pratt, of Cohasset, died April 29, aged forty-seven.

Marcus Bloomfield Leonard, of East Boston, died May 6, aged sixty-six.

George Augustus Warren, of Hopkinton, died May 6, aged sixty-eight.

Charles Warren Hackett, of Maplewood, died June, aged thirty-five.

Ebenezer Wade Drake, of Middleboro', died June 28, aged sixty-nine.

John Sullivan Bogg, of Springfield, died July 9, aged thirty-eight.

Charles Eliot Ware, of Boston, died September 3, aged seventy-three.

John Ambrose McArthur, of Lynn, died September 28, aged fifty-seven.

John Odoway French, of Hanover, died September 29.

George Otis Allen, of West Roxbury, died October 3, aged forty-eight.

David McCaire Parker, of Boston, died October 8.

James Wilde, of Duxbury, died October 15, aged seventy-five.

Pierre Le Breton Stickney, of Springfield, died November 5, aged seventy-three.

Charles Edward McGowan, of South Boston, died November 12, aged thirty-six.

James Henry Waterman, of Westfield, died November 23.

Nelson Briggs, of North Arlington, died November 25, aged seventy.

Charles Harrison Spring, of Boston, died December 9, aged fifty-five.

David Dana, of Lawrence, died December 10, aged sixty-four.

John Manchester Smith, of Vineyard Haven, died December, aged sixty-one.

MEDICAL NOTES

NEW YORK.

— An ambulance corps is to be established in the various regiments, batteries, and separate companies of the New York State Militia. For some time past the surgeons and assistant surgeons of the New York and Brooklyn regiments have had the mat-

ter under consideration, and having united upon a plan for the organization of such a corps they have submitted it to Surgeon-General Bryant, who will act upon their recommendations as soon as the necessary order has been issued by the Adjutant-General of the State.

— A burglar in Brooklyn, who was recently wounded in a conflict with the police while escaping, with two companions, after committing a robbery at night, has been identified in rather a curious way. When arrested it was found that his upper jaw was broken and several of the teeth were gone, a circumstance which he explained by stating that he had been assaulted by two men. A detective was sent, however, to the scene of the shooting affair with the police, and he there found a piece of jaw-bone with teeth attached, which exactly fitted the gap discovered in the man's mouth.

Miscellany.

SOME VASO-MOTOR PHENOMENA IN TYPHOID FEVER.

Dr. Angel Money calls attention (*Lancet*, December 3d) to certain vaso-motor phenomena, which he has noted in cases of typhoid and of rheumatic fever. He divides them into classes, as follows: In the first class he places the *spontaneous vaso-motor phenomena*, by which he means those facts which may be witnessed without further irritation or stimulation than attends the mere exposure of a surface of the body or limb on which the observation may be made. If it be the surface of the abdomen, this may be found to be for the most part of a pinkish hue, such as tends to obscure the presence of rose spots, if such be present; but scattered here and there through the red tint, which they mottle, may be seen areas of whiteness, which present a distinct and striking contrast with the general tint, and are, moreover, characterized by varying in distinctness, being whiter or less white at one moment than at the preceding or succeeding moment. If to such a skin, under such circumstances, the additional condition be added of a slight mechanical — electrical or thermal — stimulation, certain further observations may be made, the purport of which he does not pretend to fathom, though it would be easy to offer plenty of hypothetical explanations. It generally happens that the stimulated area or line turns white or ivory-tinted after the lapse of a rather long latent period, variable in different cases and at different times for unascertained reasons, and measurable generally by seconds. The whiteness is not strictly limited to the irritated section, but spreads away from the part stimulated, and in a gradual, decreasing fashion. Moreover, the pallor does not appear abruptly after the period of latency, but the pinkness of the skin gradually gives way to the whiteness, and the changing hue is very perceptible. Thus, both in space and time the phenomenon has a graduation and a duration which are, comparatively speaking, of slow course, and remind one rather of the contraction of smooth, plain, nerveless muscular fibre, than the rapid, sharp contractions of the well-nerved voluntary muscle.

Again frequently, but not always, it will be found that exposure of the skin of the arm and forearm in the same subject presents a contrast with the previously or simultaneously exposed surface of the abdomen, the general tint being white with irregular patches, sometimes streaks, of pink or darker red. When this contrast is evident, and occasionally when there is no such general and spontaneous dissimilarity of appearance, mechanical, and sometimes (? always) electrical and thermic, irritation of the skin of the arm will be followed after a similar, but perhaps generally a trifle shorter, period of latency by the gradual development of the *tache cérébrale* or red streak, having the usual characters of that phenomenon. Sometimes the surface of the arm has a general pink tint on first exposing it to the atmosphere, and this may rapidly change to white, but the color of the written characters thereon may be deep red. The contrast in color may be still more remarkable, even in the same case; the writing may be white on the surface of the abdomen, red on the forearm, white on the legs. He lays considerable stress on the circumstance that the temperature of the skin and of the body is usually high in cases which present these vascular phenomena, and, further, I have most generally observed them in full perfection when the skin has not been perceptibly sweating. But, as proving that neither increased heat nor an especial dryness of the cutaneous tissues is necessary to the production of such phenomena, he observes that he has seen them very well marked in cases of epilepsy and chorea of uncomplicated and afebrile sort. It may be worth placing on record, also, in this connection that the majority of cases in which these observations were made the brain was certainly perturbed in its functions, for delirium was frequently present at some period of the twenty-four hours, mostly at night-time; still his observations were usually made during the day-time, and when the intellect of the patient, to all ordinary modes of investigation, did not seem to be abnormally affected.

Correspondence.

"THE DOCTOR'S WIFE."

Audi Alteram Partem.

Cranberry Meadows, Dec. 23, 1887.

Mr. Editor, — I can keep my peace no longer, but must tell your readers the true story of Dr. Benedick's success. Of course you supposed that no one but doctors would read the letters you have published, and you were glad to let them smile at what they would graciously term the foibles of the doctor's wife; but I fear they do not realize that perhaps they owe more to her than even Dr. Cœlebs would admit in his bluest moment. I really think Dr. Benedick himself was a trifle afraid of hearing a personal opinion on the matter, for I have had difficulty in finding the *Journal* during these past few weeks, and only after a vexatious search has it been discovered at the bottom of a pile of papers which haven't been read for two months. And this leads me to say that, possibly the genial raillery in the first charming letter about the doctor's wife putting the baby with the fit into hot water, and soothing the terrified friends of the man with the broken leg, may have been an unconscious testimony of the writer to a knowledge which was far deeper than he knew.

Perhaps he is like Dr. Benedick, who probably does not know with what zeal his wife picks up scraps of knowledge

from those very books which he innocently supposes are never disturbed except on the rare occasions when he proudly pulls them down to dazzle the eyes of old Dr. Wormwood, whose library is said to consist of a dozen old volumes which have been lying on the top shelf of his closet for fifteen years. The most recent one among them was purchased back in the forties because it gave a description of the only operation the doctor ever performed, which exploit, as he tells of it whenever he has a chance, he very naturally mentions in his letter.

But, perhaps, your wives read more than you think, gentlemen; and perhaps there are some things they hear outside which might be worth a good deal to you. They get information from lips that to you are sealed. Confide in them and, my word for it, you will not be sorry.

True, the wife alone cannot bring success; yet compare these pictures and give your verdict. The patient who calls at Dr. Cœlebs' door is met by a frowsy, sour-faced housekeeper, a look at whom would give anyone the dyspepsia. He is shown into an untidy, dismal room, smelling of cheap tobacco, and fairly littered with instruments suggestive of all manner of tortures. The doctor is patterned after the room. When he emerges to make a call the only button still clinging to his overcoat is half-way down; his unblacked shoes are well calculated to show the knots in his shoe-strings, which will come untied; his beaver shows three years of style, and at least five of decrepitude; and the glove which still sports a button is ripped between the fingers. No one doubts that he knows more than old Gamboge ever did, but when he combats all the old women's theories, which the shrewd old doctor had assiduously nourished all these years, his learning goes for nought. Perhaps it isn't so in other places, but people here in Cranberry Meadows don't hire a doctor to show them how much he knows, but to make them satisfied with themselves.

If some one calls upon Dr. Benedick, a pleasant face greets him at the door, and he feels better already. A patient and sympathetic ear hears his story. Everything is neat and cozy. The doctor is never allowed to go out without a final survey, to see that all is right. A smile puts him in good humor before he leaves, and the reckless way in which he acquiesces in what has been done by the maiden aunt before his arrival, would make his medical instructors hold up their hands in horror; yet the aunt, and with her, the family, are his friends for life.

But there are secondary points. The true secret of success is this: *Dr. Benedick wears a full beard.* The doctor's strength varies diversely with the number of hairs on his face, and inversely with the number of those on his head. When Father Time shall have reaped the harvest from the crown of our neighbor, Dr. Cœlebs, and gathered in the shocks, and shall have raised a new crop on the soil below, now lying fallow, then our friend will be too busy to write plaints to the JOURNAL, because there has not yet been dealt him that winning card which he calls

"THE DOCTOR'S WIFE."

MRS. BENEDICK HAS THE LAST WORD ON THE "DOCTOR'S WIFE."

CRANBERRY MEADOWS, December 26, 1887.

MR. EDITOR,—I noticed for three weeks that the *Medical Journal* was put away so that I could not find it, but I went to the Post Office myself when the last number came and then the whole thing came out, and I have seen your editorial and what Dr. Cœlebs and Dr. Benedick and Dr. Wormwood have to say, and I must say, Mr. Editor, that time must hang pretty heavy on some people's hands. I think Dr. Cœlebs is real mean. I don't know why he wants me to stop going to sewing society just because I'm married. I always have been to sewing society and amusements are not so numerous in the Meadows that one can neglect them. I wonder what he would have said if I had not returned my wedding calls. We do not stand on ceremony here in the Meadows, but we are very particular about wedding calls, and you can't expect us to be *purposely* disagreeable to folks that may be patients, and you can't expect a girl who never had anything in her life to conceal, to learn all at once to hold her tongue. Folks here are interested in me, and of course they ask me questions about the sick people, and of course I have to tell them something. If *somebody* would remember that I don't tell *all* I know, I should think he would be thankful.

It certainly is real hard for a doctor's wife to know just what to say and what to do. Everybody takes it for granted that she knows just where her husband is, and what he said, and just how every patient is doing. It makes me ashamed sometimes when the doctor don't tell me about something, and I have to say I don't know about it. And it seems to me just right that the doctor's wife should be able to tell people about their sick friends. Now when the Prince of Wales and President Garfield were sick, there used to be bulletins from the doctors published in all the newspapers, and when young Bulwhacker was nearly killed, stopping the runaway horse down at the South Meadows, and lay for four weeks so near death that nobody dared speak, and my husband spent most of his time there, and finally pulled him through, people couldn't go four miles twice a day to inquire about him, but they used to come to me and find out what the doctor said, and I kept a list of all of them, and showed it to his poor mother when he was well again. Now wasn't that better than saying I didn't know?

Now that note of Dr. Benedick's is just like him, he is altogether too modest and he likes to make it appear as if it was all Mrs. Gamboge's doings. He always does belittle himself, and if anybody ever needed somebody to stand up for them, he does, and I think it is high time that some one who *knows* and who is *calm* and *reasonable* should correct the wrong statements that have been made.

In the first place, if my husband had showed me his letter before mailing it, I could have set right *one* error. I want it distinctly understood that Aunt Gamboge *never* made up *any* match between me and my husband. She told me often enough that if I *must* have one of them she knew which she should choose, but I was just throwing myself away to marry either of them and that is all the match-making she did. Perhaps if my choice had been different your correspondence would have been different too. When the doctor married me it was because he wanted to bad enough to ask me, and I did not say yes the first time either. He *is* doing beautifully in his practice since he married, and Mrs. —— told me only yesterday that he was by all odds the coming doctor of the town, and our mare is not spavined, whatever that hateful old Wormwood (gall and wormwood, *folks who like a joke*, call him) may say. It is just because my husband had to drive her so much that she went lame, and we wouldn't have had to give our note for him if we hadn't got him just the same time that the baby was coming. Fuller Wormwood never would have known about the note anyway if he hadn't been looking around for some way to invest his scrapings and scrimpings and bought it. If there is anybody that is just hateful, it is that old Wormwood. Everybody knows that the only thing that ever got him along at all was his being so cross and snappy. There are some folks that always think that a doctor doesn't know anything unless he is as savage as a bear. I always did hate an old bachelor that is a doctor. They get crustier and crosser than any other kind of an old bachelor, and they are all bad enough goodness knows, besides *I* think, and there are plenty more think as I do, that it isn't right for an unmarried man to be coming into houses and attending ladies. I should not dare to write this if I did not know where the money was coming from to pay our note.

One curious thing has happened since Cœlebs took to drink. He has really got several good patients by it. They say if he can do anything at all when he is drunk, "what must he be when he is sober!" And the women of the temperance society have taken him up to try to reform him, "it is such a pity to see a man with such a brain

ruining himself with liquor," so that he is altogether doing better than ever before.

Now I think I ought to tell you about that "case," though I should not *dare* to if I was not a doctor's wife, but I guess I must be the only one left that knows about it unless Aunty Gamboge does, and I really feel that I *ought* to tell. Well grandpa went back to Uncle Gamboge and sorry enough he was he ever left him; for after the operation something was so bad that he was always taking medicine and every once in a while Uncle G. had to go out to see him and they used to have just *awful* times.

Respectfully yours,

BEATRICE JANE BENEDICK.

P. S. — If my husband should go down to the Legislature next winter couldn't you get him a place on the Board of Lunacy and Charity? He took a patient over to Taunton once, and the doctor there showed him round, and we have been reading up about *alcoholism*, so he is well up in that part of the subject. As for the charity, there are lots of such cases among the factory people. I hear board is high in Boston, and if you could get him into such a place it would be a great help. I hope you will be sure and keep your promise and not let anybody else write anything more.

B. J. B.

ADVERTISING CHAMPAGNE.

BOSTON, December 26, 1887.

MR. EDITOR, — I have received a few circular letters containing letters of endorsement from the chairmen of committees and officers of the International Medical Congress at Washington, and I presume that other physicians may have had similar advertisements. The least that can be said about these endorsements is the want of dignity in lending apparent support to this means of advertising commercial firms. Though the enclosed refers to a brand of champagne, I have received other circulars of the same character and endorsements of medicinal trade compounds.

I hope that other physicians will forward these advertisements to the medical journals, that we may know our professional colleagues who appear in this public capacity.

Yours respectfully,

MODESTAS.

MATERNAL IMPRESSIONS ON THE FŒTUS IN UTERO.

NEWPORT, R. I., December 16, 1887.

MR. EDITOR, — A few days since I attended Mrs. C., a robust Swedish woman during an easy and natural labor. Before leaving the house I examined the child, and found that it seemed to be totally blind. As a matter of curiosity, I inquired of one of their intimate friends if any thing had happened to bring this about, and learned that they had another girl about four years old who had remarkably beautiful eyes and of whom the mother was exceedingly proud, and during her pregnancy she would frequently in private and before visitors cause the child to close her eyes, and then tell her she had no eyes, they were gone, remarking also what a sad case that would be.

I remember her also asking at once after the birth of her child about the condition of the eyes, if they were perfect, etc. Very truly yours, T. A. KENEFICK, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 17, 1887.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Typhoid Fever.	Diph. & Croup.	Scarlet Fever.
New York	1,481,920	677	249	21.17	19.05	2.40	10.80	3.75
Philadelphia	993,801	388	118	8.58	13.78	1.04	4.42	.52
Brooklyn	745,108	320	116	20.15	18.91	.93	13.64	3.14
Chicago	725,000	—	—	—	—	—	—	—
St. Louis	420,000	—	—	—	—	—	—	—
Baltimore	417,000	141	49	18.43	8.51	—	7.79	—
Boston	400,000	208	52	12.96	12.48	1.92	4.80	2.40
New Orleans	242,750	126	44	22.12	9.48	—	8.69	—
Buffalo	225,000	—	—	—	—	—	—	—
District of Columbia	210,000	69	27	18.85	7.25	4.35	4.35	—
Pittsburgh	210,000	82	27	30.50	12.20	—	3.60	1.22
Montreal	186,257	—	—	—	—	—	—	—
Milwaukee	170,000	53	22	17.01	11.34	—	5.67	3.78
Providence	121,000	—	—	—	—	—	—	—
Richmond	100,000	—	—	—	—	—	—	—
New Haven	80,000	—	—	—	—	—	—	—
Nashville	65,000	15	4	26.66	6.66	6.66	13.33	—
Charleston	60,145	37	14	10.80	10.80	2.70	5.40	—
Portland	40,000	—	—	—	—	—	—	—
Worcester	68,383	16	10	25.00	25.00	—	25.00	—
Lowell	64,051	—	—	—	—	—	—	—
Cambridge	59,660	26	5	3.85	7.70	—	—	—
Fall River	56,863	20	9	20.00	5.00	5.00	10.00	—
Lynn	45,861	9	3	—	—	—	—	—
Lawrence	38,825	—	—	—	—	—	—	—
Springfield	37,577	9	2	11.11	22.22	11.11	—	—
New Bedford	33,393	9	3	33.33	—	—	33.33	—
Somerville	29,992	17	2	23.52	17.64	—	11.76	11.76
Salem	28,084	10	3	—	20.00	—	—	—
Holyoke	27,894	4	0	—	—	—	—	—
Chelsea	25,709	7	1	14.28	14.28	—	—	14.28
Taunton	23,674	—	—	—	—	—	—	—
Haverhill	21,795	11	2	18.18	9.09	—	18.18	—
Gloucester	21,713	4	0	50.00	—	—	25.00	—
Brockton	20,783	12	3	16.66	24.00	—	8.33	—
Newton	19,759	9	1	22.22	—	—	22.22	—
Malden	16,407	7	2	28.56	14.28	—	14.28	14.28
Fitchburg	15,375	7	2	14.28	—	—	14.28	—
Waltham	14,609	9	2	22.22	11.11	—	22.22	—
Newburyport	13,716	6	1	—	—	—	—	—
Northampton	12,896	8	—	—	37.50	—	—	—

Deaths reported 2,316: under five years of age 773; principal infectious diseases (small-pox, measles, diphtheria and croup, diarrhœal diseases, whooping-cough, erysipelas and fevers) 407, acute lung diseases 338, consumption 311, diphtheria and croup, 201, scarlet fever 48, diarrhœal diseases 47, typhoid fever 43, malarial fever 21, measles 14, whooping-cough 10, erysipelas 10, puerperal fever seven, cerebro-spinal meningitis six. From malarial fever, New York and Brooklyn seven each, New Orleans five, Baltimore and Nashville one each. From typhoid fever, Pittsburgh seventeen, Philadelphia, and Baltimore six each, New York four, Boston and District of Columbia three each, Nashville two, Brooklyn and Charleston one each. From measles, New York six, Baltimore four, District of Columbia and Milwaukee two each. From erysipelas New York five, Boston three, Baltimore two. From whooping-cough, New York, Philadelphia and District of Columbia two each, Boston and Milwaukee one each. From puerperal fever, Milwaukee two, New York, Philadelphia, Boston, Cambridge and Gloucester one each. From cerebro-spinal meningitis, New York three, Philadelphia, Milwaukee and Fall River one each.

In the 21 cities and greater towns of Massachusetts, with an estimated population of 1,012,974, the total death-rate for the week was 21.14 against 21.50 and 22.08 for the previous two weeks.

In the 28 greater towns of England and Wales with an estimated population of 9,244,099, for the week ending December 3d, the death-rate was 22.2. Deaths reported 3,978: infants under one year of age 885; scarlet fever 108, whooping-cough 96, fever 59, diphtheria 48, measles 69, diarrhœa 37, small-pox (Sheffield 25, Bristol one) 26.

The death-rates ranged from 15.5 in Brighton to 35.6 in Newcastle-on-Tyne; Birmingham 21.1; Blackburn 30.4; Halifax 23.1: Hull 16.2; Leeds 20.0; Liverpool 22.5; London 21.1; Manchester 26.3; Nottingham 24.4; Sheffield 29.2; Sunderland 17.3.

In Edinburgh —; Glasgow —; Dublin 35.0.

The meteorological record for the week ending December 17, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps: —

Week ending Saturday, Dec. 17, 1887.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	7.00 A. M.	3.00 P. M.	10.00 P. M.	Duration. Hrs. & Min.	Amount in Inches.
Sunday,...11	29.90	56.0	59.0	44.0	100.0	94.0	100.0	98.0	S.	S.	S.E.	11	6	1	R.	O.	G	14	.42
Monday,...12	29.81	46.0	58.0	37.0	96.0	69.0	75.0	80.0	N.W.	W.	W.	8	14	14	O.	O.	C.	4	.12
Tuesday,..13	30.17	37.0	58.0	32.0	72.0	54.0	77.0	68.0	W.	W.	W.	16	14	10	C.	C.	C.		
Wednes,...14	30.27	37.0	44.0	24.0	80.0	65.0	82.0	76.0	W.	S.E.	S.E.	6	5	6	C.	C.	C.		
Thursday, 15	29.85	39.0	46.0	32.0	92.0	100.0	100.0	97.0	W.	N.E.	N.	4	5	12	O.	R.	R.	24	.57
Friday, ...16	29.97	34.0	37.0	27.0	65.0	54.0	77.0	66.0	N.W.	N.W.	N.W.	30	36	14	O.	C.	C.		
Saturday,. 17	29.64	35.0	41.0	26.0	56.0	39.0	56.0	50.0	N.W.	W.	S.E.	8	5	3	C.	O.	O.		
Mean, the Week.	29.944	40.6	49.0	32.0				76.4										42	1.11

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; *T., trace of rainfall.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 17, 1887, TO DECEMBER 23, 1887.

BIART, VICTOR, captain and assistant surgeon. Relieved from further duty in the Department of Dakota. S. O. 293, A. G. O., December 17, 1887.

HARRIS, H. S. T., first lieutenant and assistant surgeon. Ordered from Fort McIntosh to Camp Pina Colorado, Texas.

CLENDENIN, PAUL, first lieutenant and assistant surgeon. Ordered from Camp Pena Colorado, Texas, to Fort McIntosh, Texas. S. O. 143, Department of Texas. December 12, 1887.

SWIFT, EUGENE L., first lieutenant and assistant surgeon. Ordered for duty at Fort Spokam, Washington Territory. S. O. 293, A. G. O., December 17, 1887.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING DECEMBER 19, 1887.

MURRAY, R. D., surgeon. Granted leave of absence for fourteen days. December 8, 1887.

GASSAWAY, J. M., surgeon. Granted leave of absence for fifteen days, to take effect when relieved. December 17, 1887.

IRWIN, FAIRFAX, surgeon. Relieved from duty as Acting Chief Clerk, Office Supervising Surgeon General, and to await orders.

BROOKS, S. D., passed assistant surgeon. Granted leave of absence for thirty days, to take effect when relieved. December 15, 1887.

MCINTOSH, W. P., assistant surgeon. To proceed to Wilmington, N. C., for temporary duty. December 13, 1887.

MAGRUDER, G. M., assistant surgeon. Granted leave of absence for twenty-one days. December 19, 1887.

CARRINGTON, P. M., assistant surgeon. Ordered to examination for promotion. December 14, 1887.

SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, Monday evening, January 2, 1888. Dr. C. M. Jones will present reports of a series of cases of empyema, treated by aspiration only.

CHARLES P. STRONG, M.D., *Secretary*.

THE HISTORY OF MEDICINE, LOWELL INSTITUTE LECTURES.

J. S. Billings, M.D., LL.D., (Harvard), of Washington, has commenced this week the delivery of a course of eight lectures on the History of Medicine, under the auspices of the Lowell Institute. The lectures will be given at Huntington Hall, Institute of Technology, Boylston Street, Boston, on Tuesdays and Wednesdays at 7.45 P. M.

BOOKS AND PAMPHLETS RECEIVED.

Some Observations on Headaches in Children and Their Relation to Mental Training. By William Henry Day, M.D., Member of the Royal College of Physicians of London. Physician to the Samaritan Hospital for Women and Children. London: J. & A. Churchill. 1887.

Annual Report of the Supervising Surgeon General of the Marine Hospital Service of the United States, for the fiscal year 1887.

Aerztlicher Bericht über die Thätigkeit des Carlsbader Fremdenhospitales in der Saison 1887. Erstattet vom Director der Anstalt Dr. August Herrmann.

A Manual of Medical Jurisprudence with Special Reference to Disease and Injuries of the Nervous System. By Allan McLane Hamilton, M.D., one of the Consulting Physicians to the Insane Asylums of New York City. With illustrations. New York: E. B. Treat. 1887.

Health Lessons; A Primary Book. By Jerome Walker, M.D., Lecturer on Hygiene at the Long Island College Hospital. New York: D. Appleton & Co. 1887.

Massage and its Applications. A Concluding Lecture delivered to Nurses and Masseuses. By Herbert Tibbits, M.D. London: J. & A. Churchill. 1887.

The Practice of Medicine and Surgery, Applied to the Diseases and Accidents Incident to Women. By W. H. Byford, M.D., A.M., and Henry T. Byford, M.D. Fourth edition. Revised, rewritten and very much enlarged, with three hundred and six illustrations. Philadelphia: P. Blakiston, Son & Co.

Six Hundred Medical Dont's; or The Physician's Utility Enhanced. By Ferd. C. Valentine, M.D., etc. New York: G. W. Dillingham. 1887.